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A TRADE SCHOOL FOR GIRLS

A PRELIMINARY INVESTIGATION IN A TYPICAL MANUFACTURING CITY WORCESTER, MASS.

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INTRODUCTION.

This study of the needs and possibilities of the industrial training of girls and women by the city of Worcester, Mass., was made in the spring and summer of 1911. Three cities, Worcester, Cambridge, and Somerville, through their respective school committees, expressed a willingness to establish trade schools for girls and asked the State board of education through its agents to aid them in the task of setting up the kind of school which would best meet the vocational needs of the female wage earners and receive the approval of the State board of education for State aid under the Massachusetts statutes.

The board having no force available for carrying on such an investigation, the service of the research department of the Women's Educational and Industrial Union was secured, and a thorough study of the conditions to be met and the kind of schools that needed to be adopted in order to meet them was carried on by this department under the direction of Dr. Susan M. Kingsbury, ably assisted by Miss May Allinson and a corps of young women who, through fellowships awarded by the union, were fitting themselves for social research.[1] The reports resulted in the establishment of trade schools for girls which are now in successful operation in the three cities.

The conditions at Worcester were somewhat more favorable for the research work, and the report upon that city was fuller and perhaps, on the whole, more thoroughgoing. It is presented herewith.

The publication of this material is timely. Communities which are about to engage in vocational education would do well to remember David Crockett's maxim, "Be sure you're right; then go ahead." The task of training young people to meet the varied and complex demands of trade, and of fitting them at the same time for good citizenship, is not a simple one; it is most difficult. We know very little about the industrial conditions under which young people work, and probably less about the things that they need to know in order to be successful in their work. The Worcester report indicates the many problems that need to be taken into consideration in setting up a course of study and a scheme of training for any group of female

[1] Miss Mary Rock, Miss Lorinda Perry, and Miss Elizabeth Riedell held the fellowships for the year 1910-11.

wage earners. Every city in the country, at least of any size, needs to some extent at least just the kind of investigation that Worcester made before entering actively upon the task of establishing vocational schools of any kind.

In addition the report is valuable and timely in pointing out (1) the relationship of the public schools to the problem of industrial efficiency; (2) the responsibility which the regular schools must assume for the vocational welfare of the retarded child who leaves the schools at or about the age of 14, below grade, undirected, and unprepared for life work; (3) the different questions, topics, or problems connected with the employment of girls, particularly those who are engaged temporarily in low grade, skilled, and unskilled industries which need to be investigated; (4) the method which should be employed in order to secure facts through the public school system, through the officer who issues working certificates, and through the factories in which the girls are employed; (5) the way in which an investigator familiar with the problems of industrial education draws conclusions from the data which have been gathered and shapes them into recommendations as to the kind of school and the course of study which the situation requires.

Like all studies which have to do with young wage earners, this report adds, and adds in an effective way, to the information which has been so rapidly accumulated within the past two or three years concerning (1) the great army of young girls who go out to employment as soon as they have passed beyond the reach of the compulsory law; (2) the number of girls and women who are employed in undesirable industries; (3) the lack of opportunity for advancement and better wage earning which confronts the average female wage worker; (4) the low intellectual status and ideals of the typical factory girl; (5) the kinds of industries which retarded and backward girl pupils enter; (6) the instability of female as well as male workers in many industries; (7) the fluctuating character of their employment, and (8) the low wage which most of them are able to earn. Worcester is a typical manufacturing city. If there is any difference, its conditions are better than those usually encountered in the industrial centers of this country. The situation which this report uncovers there may be regarded as being on the whole no worse, certainly, than that to be found anywhere in industrial America.

One of the most helpful things which this report does is to call attention to the fact that the character of the trade school established for girls in any city must be entirely dependent upon the conditions which it must face. There has been danger that, carried away by the splendid success of the Manhattan Trade School for Girls in New York and the Boston Trade School for Girls, places of less size and with far different problems might blindly duplicate the organization

and the courses of study of these two institutions. The proximity of the three cities, particularly Cambridge and Somerville, to the city of Boston, and the intimate knowledge which Dr. Kingsbury and her associates had of the shops and factories in Boston and of the history and service of the Boston Trade School for Girls, made it possible for them constantly to point out the differences between Boston and the three cities which were investigated, and the differences between what Boston must do through its trade school for girls and what should be done by Worcester, or Cambridge, or Somerville.

We need more reports like this, but to be effective they must be made by those who have had some contact with vocations and with vocational education. The demand for this kind of work is growing. Unhappily, there are few indeed who can combine with the investigator's skill the knowledge of what to investigate, how to investigate it, and how to interpret the facts gathered. The rapid development of vocational education and vocational guidance is opening a new field of social research. The harvest is ripe, but the laborers few.

C. A. PROSSER,
Secretary National Society for the Promotion of Industrial Education.

A TRADE SCHOOL FOR GIRLS: A PRELIMINARY INVESTIGATION IN A TYPICAL MANUFACTURING CITY, WORCESTER, MASS.

PREFATORY NOTE.

The movement for trade training for girls has been growing rapidly in Massachusetts since the first commission on industrial and technical education made its report to the legislature in 1906. In the fall of 1911 three cities—Worcester, Cambridge, and Somerville—were seeking State aid in the establishment of a public trade school for girls.[1] The board of trustees of the independent industrial schools in Worcester and the superintendents of schools in Cambridge and Somerville headed the movement in their respective cities.

The State board of education, as well as the local boards, realized the necessity of knowing local conditions and needs in each individual city before definite action is taken in establishing such a school. They faced three main questions when contemplating the establishment of a trade school: First, what is the need of a trade school for girls? Second, what kind of a trade school should be established? Third, what would be the probable number and the personnel of the prospective students of such a school? The answer to the first question necessitated a study of what girls are doing after they leave school, and the corresponding home conditions. The second question could be answered only after discovering where and what were the demands for young girl workers. The third question required a knowledge of social conditions of the home, ambitions of the parents, and educational advancement of the children.

The State board of education, therefore, called in the aid of a department of research for information along these lines. It was arranged that one investigator should spend the month of November in each of the three cities, believing that enough information could be secured within one month to meet the immediate problems which confronted the school authorities. Delays in securing the cooperation of the various assisting agencies, and the large field to be covered extended the study to 5 weeks in Somerville, 6 weeks in Cambridge, and 9 weeks in Worcester.

[1] An act to establish the commission on industrial education, 1906, ch. 503, provides for State aid in the establishment of local public trade schools under certain required conditions of cooperation.

The field work of the investigator had two phases—visits to industrial establishments and visits to the homes of 14 to 16 year old girls who had left school to go to work in the past year. The short time allotted to the investigation necessitated the employment of short-cut methods, which might not be advisable in a more extensive study, but which proved sufficient to supply the needed information for the problems at hand. The knowledge of industrial conditions was obtained by visits to a representative number of typical establishments in the various industries of each city. The knowledge of social and economic conditions necessary to explain the large annual exodus of girls from the schools was obtained by the study of home and school conditions of one year's outgoing group, or only a part of the group in the larger city of Worcester. Moreover, the limited time did not permit interviews with the girl herself. The home was visited, but the desired information was secured from the parent.

The first step in the study of industrial conditions was to secure a knowledge of the women-employing industries and to choose representative establishments. This task was greatly simplified by the courtesy of Chief Whitney, of the district police, who granted access to the reports of the factory inspectors. Through these records it was possible to gain some conception of the size and importance of various establishments and to make corresponding selections. With such a basis, the type study may be said to represent conditions fairly.

The initial stages of the investigation of 14 to 16 year old girls leaving school were worked out in the public schools. Several hundred individual schedules drawn up by the deputy commissioner of education were sent to the schools to be filled out by the teachers from the school records, in accordance with directions issued by the deputy commissioner. The investigator completed the schedule by visits to the homes.

The reports of the investigation in the three cities reveal certain points of similarity and certain points of dissimilarity. The points of similarity seem to prove that certain uniform conditions exist, and may, therefore, be accepted as typical of the educational and industrial situation throughout the State, especially as they are distinctly confirmatory of the conclusions reached by the commission on industrial and technical training in 1906. The points of dissimilarity prove the imperative need and value of local studies wherever trade training is contemplated.

The fundamental facts which the similarity of conditions proves may be stated as follows:

The large factories or mills are receiving the great majority of 14 to 16 year old girls who are leaving school to go to work in our State.

The number of 14 to 16 year old girls leaving school to go to work is increasing. The records of Worcester and Somerville [1] show a marked increase in the past five years. The percentage of girls going to work is much greater than the percentage of increase in population.

The majority of young girls who leave school to go to work are only 14 years of age. They are dropping out, therefore, as soon as the law allows. Sixty per cent of such girls in Worcester, Cambridge, and Somerville in the school year of 1909–10 were 14 years of age.[2] Does this mean that the majority have completed the work of the grammar school? Does it mean that severe economic pressure is driving 14 year old girls to work?

The work offered in the grammar schools has been completed by only a small proportion of the 14 to 16 year old girl workers in each of the three cities. Thirteen per cent of the girls from the Somerville schools graduated. Seventeen per cent, so far as the Worcester records enlighten us, completed the ninth year. Twenty-three per cent of the girls from the public schools of Cambridge had graduated, but total returns, including girls from the parochial schools, would probably lower this percentage. The proportion of girls who left school having completed the grammar grades in these three cities in 1910, therefore, agrees very closely with the proportion, one-sixth, discovered throughout the State in 1906.[3]

There is a large loss of girls in the sixth and seventh grades. A large number have then reached the age of 14 and can secure working papers. One-third of the girls who left the public schools of Cambridge and all the schools of Worcester dropped out in the sixth and seventh grades. A much larger proportion, two-thirds, dropped out of the sixth and seventh grades of the Somerville schools. Forty-three per cent dropped out of the sixth and seventh grades throughout the State in 1906, according to the State study based on 5,447 children.[4] The length of schooling or the completion of the grammar grades, therefore, is not necessarily the determining factor in the large outgo of girls from the grammar schools.

Who decides that the child shall leave school? Is economic pressure in the home driving the girls of 14 to 15 into the factories and mills? Because of the limited time for the study, it was deemed impracticable and unnecessary to go into details regarding the economic status of the family. Questions as to exact incomes and

[1] Comparative statistics could not be secured for Cambridge, as the age and schooling certificates previous to September, 1909, had not been preserved.

[2] This percentage is, however, based on different figures in each of the three cities. The total number of certificates issued to 14 to 16 year old girls in Worcester was about 700, Somerville, 251. The percentage for Cambridge considered 230 girls reported by the public schools. Certificates were issued to 452 girls from 14 to 16, of whom 243 were from the public schools and the remainder from parochial schools. The records had not been kept and hence were not available.

[3] Report of the Commission on Industrial and Technical Education, 1906, p. 85.

[4] Ibid., 102.

rents were not attempted. Questions, however, were asked regarding the occupation of father, mother, and other members of the family, character of these occupations, illness, home conditions, and the opinion of the parent—which was checked up by that of the investigator—as to ability to give the girl longer schooling. These detailed statistics were secured for the State in 1906 by the commission on industrial and technical training. The investigation of 1906 was a more statistical study, and it covered a much wider area. The present studies were less statistical, but intensive in particular local areas. By carefully checking up conclusions deduced from the present study with those gained from the study of 1906, the director of the investigation has felt justified in presenting the conclusions reached.

Fully 50 per cent of the 14 to 16 year old girls studied[1] in each of the three cities did not leave school because of economic pressure. In 1906 it was found that 76 per cent of the children studied in all parts of the State were economically able to have had further schooling, if persuaded of the advantage.[2] The percentage which has been deduced in the present studies is very conservative for two reasons: First, because the conclusion was based on general rather than detailed statistical information; second, because it was deemed advisable to report a conservative number of possible prospective students.[3]

The 14 to 16 year old girls who go to work, with very few exceptions, enter unskilled industries which offer little or no opportunity for rise or development. The instability of these young workers is a universal problem in all three cities. The elementary processes which occupy young or inexperienced workers are purely mechanical. The work of the beginner, even in the better trades, does not afford training or working knowledge of the more skilled work. The work in unskilled trades points to nothing higher or better. The work is monotonous, easily learned, and the maximum pay, which is small, is soon reached. The beginner becomes discouraged with the lack of opportunity for advancement and determines to try something else. She drifts from place to place and never becomes proficient in any one thing. "One-half the girls," remarked the superintendent of the largest corset factory in Worcester, "get discouraged before they reach the point of maximum speed, and quit when they are probably just about to strike a paying point." A large rubber factory in Watertown (adjoining Cambridge) which employs 1,600 workers at any one time reports that 4,500 were enrolled on the pay

[1] Worcester—314 of the total 727 were followed up; 214 were located and interviewed. Cambridge—236 of the total 243 leaving the public schools were followed up; 187 were located and visited. Somerville—146 of the total 251 were located and visited.

[2] Report on Industrial and Technical Education, p. 92.

[3] For this reason the total number studied, rather than the number reporting on a specific question, has been used throughout as the basis for computing percentages.

roll in the past year. A jewelry factory in Somerville reports that 5 out of every 6 workers leave in a year; another says the whole force shifts every year. Employers in all three cities say that a large proportion of the workers is continually fluctuating. The monotonous repetition of work, inability to meet the demands of the trade, inefficiency, discouragement, and the seasonal fluctuation are producing an army of fluctuating, unskilled, low-paid workers which involves many industrial, economic, and social complications. Large establishments in the three cities are attempting to solve the problem by various methods. None has yet attempted to solve the problem through systematic training of their workers.

While these general conditions of a phase of the so-called social unrest prevail from city to city, the relief is so closely associated with the industrial opportunity that local study at once becomes imperative. What the schools are doing, what the children are needing, what the business establishments are demanding, seems to be uniform from community to community. What the school can do, what the family may expect, seems to depend on the industrial character of each locality.

Although the work for young girls is unskilled in all large factory industries, the processes open to the more mature women may require a certain degree of skill or manual dexterity and offer a correspondingly higher wage.

A study of the women-employing industries of Worcester and Cambridge shows that the largest industries which employ women do require some skill. Machine operating on clothing occupies almost one-half of the women working in factories in Worcester. Rubber goods, bookbinderies, and presses employ almost one-half the women working in Cambridge. There are, however, practically no provisions in the trade for training or preparing the beginner for the more skilled processes. The result is large waste, incompetence, and instability of the labor force, and scarcity of skilled workers.

The necessity for local study is well illustrated by the differences in these three cities. Worcester is the third manufacturing city of New England, with a population of more than 145,000. It is a political, industrial, and social entity, resulting in a lack of interchange of work and workers with Boston. It is, on the other hand, near enough to Boston to give opportunity for an interchange of custom and customers. Therefore, although the more skilled trades have a great insufficiency of skilled workers, the city is too far away to draw workers daily from Boston. Because of the lack of high-grade work, however, the wealthy people of Worcester come to Boston for their more expensive costumes.

Cambridge, a city of more than 100,000 inhabitants, presents a different situation. Although a political entity, it is industrially and

economically dependent on the various surrounding cities, as they are in turn dependent on Cambridge. This results in an exchange of work and worker, as well as of custom and customer. Cambridge, therefore, sends out skilled and unskilled workers to surrounding cities. Her large factories, on the other hand, employ women not only from Cambridge, but from surrounding cities. The university draws large numbers of transient residents. Its suburban character makes it the residence of many people who work in Boston. Such conditions partially explain the large development of laundries in Cambridge, which employ a large number of women. Its suburban character partially explains the investment of Boston and outside capital in large factories.

Somerville, a city of more than 77,000 inhabitants, is primarily a residence suburb. Only a few, small, scattering, low-grade industries exist. Although a political entity, Somerville is an industrial and economic dependency of Boston, Cambridge, and surrounding cities. It sends its skilled and its unskilled workers out to surrounding commercial and manufacturing cities.

The women-employing industries of Worcester show a tendency to group in four large divisions: Machine operating,[1] textiles, wire and metal goods, and envelopes and paper goods. The first group only, the machine-operating trades, offers opportunity to a large number for a medium degree of skill and wage. The highly skilled trades, dressmaking and millinery, show little development. They employ and offer opportunity to only a comparatively small number.

The women-employing industries of Cambridge show greater diversity, though rubber goods and bookbinderies employ more than 40 per cent of the women working in Cambridge. The highly skilled trades show very little development. The women-employing industries of Somerville are practically negligible.

What significance have these conditions for the problem of industrial training in each of the three cities?

In Worcester, the machine-operating trades employ large numbers of workers. There is a great scarcity of help. Training therefore in machine operating for a large number of girls would seem to benefit the worker by preparing her for the more skilled processes of the trade. A knowledge of the operation of the machine would lift the worker over the preliminary stages of unskilled work which prove a great sifting process and are a fundamental cause of instability of the workers. The skilled trades need only a small number of beginners each year, hence only a few should be trained for the shop. A large number of dressmakers are day workers or private workers. The problem for solution is to equip young girls for this

[1] Machine operating is used in this study to indicate the manufacture of corsets and other women's wear as a factory product.

broader field of the day worker, without the intermediary experience in the shop.

In Cambridge and Somerville the skilled trades show very little development, but Boston offers opportunity for prospective workers. Training might therefore well be offered in dressmaking and millinery. The workers can secure their preliminary experience in the shops of Boston and later return to their home town as independent workers, as the shops of Boston provide the intermediate as well as the advanced stage for the girls trained in dressmaking and millinery in Cambridge and Somerville. In Worcester that opportunity is lacking. The large industries of Cambridge offer little opportunity for training outside the factory. Boston, again, offers opportunity for the worker who is capable of a medium degree of skill and who must acquire immediate economic independence or partial independence. The machine-operating factories of Boston are in great need of skilled workers. The young girls of Cambridge and Somerville may well be trained and find opportunity for development in these factories of Boston.

Local conditions need careful study therefore in determining the character of trade training or continuation schools. Worcester has a purely local problem. Public money expended in training and developing her young prospective workers gives returns in more efficient workers, greater stability, and better social and economic conditions for the wealth-producing industries of the city. Cambridge and Somerville will necessarily be training and developing workers for the industries of other surrounding cities. Worcester need concern herself with the problem of part-time instruction in her own local industries only. Cambridge and Somerville must concern themselves with the problem of their workers in surrounding cities. Worcester is an independent entity from an educational, economic, and industrial point of view. Cambridge and Somerville can not become independent from an educational point of view any more than they can from an economic or industrial standpoint. Only by intensive cooperation with surrounding cities, therefore, can the people of Cambridge and Somerville meet the needs and demands of the girl.

There are advantages, however, as well as disadvantages in the dependence on surrounding cities. The workers of an industrially independent city like Worcester may be deprived of opportunity for development and experience in highly skilled trades. The workers of an industrially dependent city may have the advantage of access to the skilled trades of a neighboring city.

A knowledge of local conditions is therefore essential before action can be taken in the establishment of trade training or part-time schools. Satisfactory results and efficient work can come only

with a thorough understanding and careful consideration of existing conditions, needs, and opportunities in localities where such schools are to be established. A knowledge of the processes of the trade, the possibilities of cooperation between school and industry, the natural ability of the children and what they can do in the schools and in the factory, is necessary to enlightened policy. Interest on the part of the community as well as close cooperation with those who control the industrial situation is essential to success.

I. THE METHOD OF INVESTIGATION.

A brief survey of the methods and sources of information used in the study of a single city with a view to discovering the need of and opportunity for industrial training is presented as showing the validity of the study, and as suggestive for future study for similar purposes.

THE SCHEDULES.

Two schedules were used—one for the interview with the individual and one for the interview with the employer.

(*A*) The individual schedule was drawn up by the deputy commissioner of education and was "designed to be used by schools for the primary purpose of ascertaining the probable number and identity of the girls who may become pupils in a free public trade school if one should be organized in the future."

This schedule was planned to cover three types of pupils: (1) the pupil who has left school within the past school year; (2) The pupil over 14 who is still in school, and (3) the pupil between 13 and 14 who is still in school. (See accompanying blank.)

INDIVIDUAL SCHEDULE.

.....
(City or town.)
.....School Bldg.

Pupil who has left school.....
Pupil over 14 who is still in school.....
Pupil between 13 and 14 who is still in school....
(Indicate by the mark (X) which of the above describes the pupil named below.)

(*Blank for use in investigating the need for the industrial training of girls.*)

1. Name of pupil.....
2. Date of birth..... 3. Age last birthday.....
4. Parents' or guardian's name.....
5. Nationality of father..... Of mother.....
6. Place of residence.....
7. Present or last year in school.....
8. Type of pupil: (a) Application.....; (b) Scholarship.....
   (c) Conduct.....

(Use the terms good, fair, and unsatisfactory.)

9. Health and strength:
   (1) Do you regard her as normal or below normal in health and strength?.....
   (2) Is she mature or young for her years?.....
10. Has she displayed skill or interest in practical work of any kind?.....
11. Do you think she will be more successful in trade work or in other kinds of work?
   .....
   (Use the expressions "in trade work" and "not in trade work.")
12. Which of the following things does the girl and which do the parents wish to do?

	PARENT.	GIRL.
1. Withdraw her from school.....		
2. Place her in a local free public trade school if offered.....		
3. Retain her in regular public school work.....		

   (Write the word "Yes" on the appropriate line and in the appropriate column.)
13. If given an opportunity would she probably attend a local free public trade school?.....
14. Economic and educational status of family:

	(Father)	(Mother)
Occupation of father and mother.....		

   Permanent.....Seasonal.....Temporary.....
   (Write the word "Yes" after permanent, seasonal or, temporary.)
   Occupation of other members of family.....Illness in family.....
   Educational status of family.....
   (Use terms "educated," "intelligent," "ignorant.")
15. Are her parents able to send her to a one-year course in a local free public trade school?.....
   A two-year course?.....
16. What are her home conditions?.....
   (Use the terms "comfortable," "lacking in comfort," and "poor.")
17. Where, if anywhere, has she been employed?.....
   (Give places, if possible.)
18. What wages did she first receive?.....
19. What is present wage received?.....

These schedules were distributed through the public schools with instructions to the teachers for filling out questions 1 to 11 from the public school records. It was hoped that the teachers might also answer in part at least, from their general knowledge of the pupils, items 12, 13, 14, 15, and 16, with respect to pupils still in school. The schedules were then turned over to special investigators, who followed to their homes a large proportion of the pupils who had left school in the past year, in order to complete the information required by questions 11 to 19.

Experience has shown the advantage of some changes in method of attack and plan of schedule in any future study. The original plan provided for an investigation of two distinct types of children—those out of school and those in school. The results obtained through the investigation seem to indicate the advisability of making each group the subject of a distinct and separate study. The statistical and intensive study of the children who have left school might best

be turned over to expert investigators, and the study of the children still in school left to persons connected with the schools. After the survey was completed, therefore, the directors of the investigation drew up a schedule designed for the pupil who has left school during any one year to be presented to the board of education as a working schedule. They feel, however, that the study of children still in school should be for the purpose of vocational guidance, and should be conducted on a distinctly different basis. No schedule is therefore suggested for this purpose.

The directors would urge that this schedule be filled for all girls who have left school in the year preceding the study. The proposed schedule would consist of two separate sheets, one dealing with the school history of the child and one with the economic situation. The first sheet, covering items 1–10, would be filled in by the teacher as before; items 1–6 from the school records; and 7–10 by the teacher, *with the aid of the investigator*. The second sheet would be filled in by the investigator through visits to the homes of these girls. (See following blanks.)

INDIVIDUAL SCHEDULE I.

(To be filled in by teacher and investigator.)

Pupil who has left school within last year:

..... Name.....
(City or town.)

.....School bldg. Address.....

.....Teacher.

1. Parent's or guardian's name.....
2. Nativity of father..... Of mother.....
3. Date of birth of girl..... Age last birthday.....
4. Grade of leaving school..... Date.....
5. Type of pupil: (*a*) Application..... (*b*) Scholarship..... (*c*) Conduct.....
6. Health and strength:
   (1) Do you regard her as normal or below normal in health and strength?.....
   (2) Is she mature or young for her years?.....
7. In what subjects is she deficient?.....
   In what subjects does she excel?.....
8. In what practical work, if any, has she displayed skill or interest?.....
9. What is the reason she left school?.....
10. If given an opportunity would she probably attend a local free public trade school?.....

INDIVIDUAL SCHEDULE II.

(To be filled in by investigator.)

1. Economic status of family.....

	Occupation.	Wage.	Character of occupation.	Regularity of occupation.
Father				
Mother				
Other members				

(For Character of occupation, use terms Permanent or Temporary; for Regularity of occupation, use terms Seasonal or Regular.)

Members not at work.....

2. Home conditions..... Grade of family.....

(Use terms or describe as to degrees. For Home conditions use terms Comfortable, Lacking in comfort, Poor.)

3. Rent paid..... Illness in family.....

4. Educational status of family.....

(Use terms Educated, Intelligent, Ignorant.)

5. Extent of parents' interest in trade school.....

(Based on parent's statement.)

6. Are parents able to send girl to local free public trade school?.....

(Based on investigator's impressions.)

7. Reason why girl left school.....

8. In what practical work if any does she excel?.....

9. Supplementary schooling:

(1) Has girl attended any other than regular day school?.....

(Public, evening, trade school, business, art, or any other day or evening school.)

(2) Length of time.....

(3) Department of the school.....

9. Business experience of girl:

	Firms.	Occupations.	Wages.	Length of time.
1.				
2.				
3.				
4.				

(B) The firm schedule was designed for a study of the industry, and was drawn up by the directors of the investigation.

FIRM SCHEDULE I.

FIRM. ADDRESS. PRODUCT. TRADE.

.....

CONDITIONS OF INDUSTRY { Regular..... / Seasonal.....

SEASONAL WORK { Time of max. emp..... Total No. emp..... / Time of min. emp..... Total No. emp.....

Dull season: Distribution of work.....

Change in..... Efforts to regulate.....

WOMEN WORKERS—Supply..... Source..... Homes.....

	Schooling.	Age.	Nationality.	Experience.	Physical characteristics.
Type desired.....					
Type in shop.....					

Age groups—No. between 14–16..... Age of majority.....

LEARNERS, GIRLS—No..... Per cent unsuccessful and reason..... Lowest age accepted.....

Training—Kind..... Length of time.....

Qualities desirable.....

Suggestions for trade training.....

The investigation has shown that item 1, "Conditions of industry," is unnecessary, as no industry has yet been discovered which does not show fluctuation or seasonal aspect. This conclusion is borne out by the Twelfth United States Census tables of numbers of wage earners employed by months. "Change in" is also unnecessary. On Schedule II, an additional column under "Number employed" for "Girls" (including girls over 14 and under 16) should be inserted.

FIRM SCHEDULE II.

FIRM..... ADDRESS.....

KINDS OF OCCUPATIONS.	No. employed.		General, sectional, team work.	Weekly wages.					Remarks.
	Men.	Women.		Min.	Max.	Maj.	Time.	Piece.	

BASIC PRINCIPLES OF PROCESS.....

.....

HOURS..... Daily..... Weekly..... Noon.....

WORKROOM..... Lighting..... Ventilation..... Space..... Cleanliness.....

Legal observances.....

INTERVIEW WITH..... Date..... Investigator.....

The study of the children who had left school in the preceding year inspired the desire to know if the conditions discovered for this single group of girls were representative. A small card with 6 questions was accordingly drawn up, and with the cooperation of firms and forewomen put into the hands of the workers of some of the

large factories of Worcester as a test case. The returns were not as complete as might have been secured if the investigators could have personally supervised filling in the cards, and we should advise this in the future if permission could be obtained from the firm. The results, did, however, confirm the impressions gained from the study of a single year's group of girls going to work. The third question did not draw as satisfactory results as desired and would be better worded thus: "Were you compelled to leave school to go to work?"

Questionnaire for women factory workers.

1. How old were you when you left school?.....
2. In what grade were you when you left school?.....
3. Why did you leave school?.....
4. How long have you been out of school?.....
5. What are the different kinds of work you have done?.....
   1st.....
   2d.....
   3d.....
   4th.....
   Present.....
6. If the school had taught trades would you have stayed a year longer to learn trade work?.....

SOURCES OF INFORMATION.

The age and schooling certificates in Worcester and Somerville provided invaluable statistics as to total numbers, age, and schooling of girls going to work.

Through the courtesy of the chief district police, lists of factories and shops in the records of the factory inspectors of the cities studied were placed at the disposal of the State board of education. These statistics enabled the investigators to discover what industries were drawing the girls and women workers and to select wisely and visit representative establishments. Sixty-three establishments in Worcester were visited, including not only the largest women-employing[1] industries, but also those offering greater opportunity for skill, development, and financial advancement.

The names, addresses, and school history of some 500 girls were secured from the public schools of Worcester. Three hundred were followed to the addresses given, and 214 located and visited. The age and schooling certificates of 727 girls who went to work in the past year, the records of 214 girls visited in their homes, the information gained from visits to 63 establishments, and the factory inspectors' reports, therefore, provide the material for the study of the needs of and opportunity for trade training in Worcester.

[1] The term "women-employing" is used in this study to indicate those in which large numbers of women and girls are engaged. The term "girls" to indicate girls 14 and under 16 years of age.

II. INDUSTRIAL OPPORTUNITIES FOR WOMEN IN WORCESTER.

Worcester is one of the great manufacturing cities of Massachusetts. In 1905 [1] it ranked third in New England and twenty-ninth in the United States. The knowledge that many women are working in the industries of Worcester and that many girls are commencing work at a very early age has aroused the schools and the community to endeavor to discover what the real conditions are, and what more can be done by the schools to prepare the girls for their life. It has well been said that children may be either "book-minded" or "motor-minded." The "book-minded" take advantage of the present opportunities, continue in one type or another of the schools, and finally enter professional or commercial life. The "motor-minded" girl is one who learns more by seeing, handling, doing things than she does from books. The purpose of this study is threefold: First, to discover what has become of these "motor-minded" girls who have entered industry at 14 or 15 years of age; second, to suggest, if possible, how the schools can persuade them to give a longer period to preparation; and, third, to discover what is the type of preparation which would fit them for the demands of the industries of the community.

It is therefore with these children who have dropped out of school during the past year that this study is concerned. It in no way considers the girls who now remain in school, and can afford a period of four years or more after they have completed the grammar grades; nor does it concern itself in any way with the book-minded child who through accident or temporary discouragement has been forced out of school, but might be influenced to return. It must be kept in mind, therefore, that the study considers the child 14 or 15 years of age, the child whose interests and abilities are for the more active and industrial pursuits.

Three definite lines of attack have been followed in making this study. First, it seemed necessary to gain a general view of all kinds of industries employing women; second, to intensify on those trades which seem to offer to the woman worker the greatest opportunity for self-development, for financial advancement, and for large demand; third, to follow to their homes the girls who had left school to go to work in the past year, to obtain some conception of the economic situation and aims and ambitions of these families.

Although the manufactures of Worcester are more diversified than in many of the New England cities, four great industries, viz, machine operating (manufactures of corsets, women's clothing, shoes, and slippers), textiles, wire and metal goods, and paper products, are the

[1] Census of Massachusetts, 1905; III. Manufactures and trade, XXXIX.

great women-employing industries of Worcester. Accordingly, visits were made to 11 clothing factories, representing all the largest establishments and employing about 1,200 workers; to the 3 largest corset factories (of a total of 6), employing more than 2,000 women and girls; to 3 out of 7 shoe factories, employing about 225 workers; to 6 out of 18 textile mills, employing 800 women; to 1 of the 39 or more wire and metal factories, employing about 150 women; to 3 of the 10 envelope and paper goods factories, employing over 600 women; and to a biscuit factory.

A more comprehensive study of the trades offering a higher grade of work was attempted, and visits were made to 19 dressmakers (1 of whom was conducting the department for custom wear in the largest department store), employing some 200 women, and to 16 millinery establishments (4 of which constituted the millinery department of the 4 largest department stores), employing some 200 women.[1] Worcester is, however, primarily a city of factory industries, which have shown a very rapid growth in the last few years. In 1908,[2] for instance, 4 corset factories, employing 1,029 women workers, are reported, as compared with 6 corset factories in 1910, employing about 2,000 women and girl workers. The growth of this industry, undoubtedly, partially explains the increase in the number of 14- to 16-year-old girls who are leaving school to go to work.

The problems which concern us in this discussion of the need and opportunity for trade training for women will follow four main lines: (1) The annual exodus of young girls from the grammar schools, with a study of their age, schooling, nationality, and results gained from their early entrance into industry; (2) the industries which these young girls enter; (3) the kinds of work which the young girls do in these industries; and (4) the great women-employing industries in Worcester.

III. THE EXODUS OF YOUNG GIRLS FROM THE SCHOOLS.

A. Number of girls leaving school.—The number of girls under 16 years of age who leave school to go to work has increased 40 per cent in the past five years. From September, 1909, to September, 1910, more than 700 girls[3] took out age and school certificates. Five years ago only 513 girls[4] applied for these certificates, an increase of about 200 in all.

[1] Total numbers of employees or of establishments for industries as a whole are based on the factory inspector's reports, which can be accepted only as indicative rather than statistical.

[2] Twenty-third Annual Report on Statistics of Manufactures, 1908, p. 25.

[3] Number of certificates issued to girls within the past year and preserved in the office of the truant officer. This number probably includes some certificates taken out for temporary work, such as for the Christmas rush in the stores or for the summer vacation. Of 200 girls visited, however, less than half a dozen had taken out age and schooling certificates for temporary employment.

[4] This number is based on the figures given in the Report on Industrial and Technical Education, 1906, p. 70.

The significance of this increase in the number of girl workers becomes apparent when it is discovered that there was an increase of only 10 per cent in the population during these five years.[1] The increasing number and size of the great factories manufacturing corsets, textiles, and paper goods undoubtedly explains to some extent this increase in the number of girl workers, although the study of three cities, Worcester, Cambridge, and Somerville, seems to reveal a universal increase in the number of girls who go to work under 16.

Is this exodus of physically and mentally immature workers an economic necessity? Is it an ultimate benefit to the child? Is it an economic advantage to the employer? In fact, what is the effect of the large number of girl workers leaving school as soon as the law allows? Such are the questions these data force us to meet.

B. Age of girls leaving school.—These facts concern us all the more when we discover that about 60 per cent of the girls who left school to go to work in the past year were only 14 years of age.[2]

Let us stop for a moment to see what this annual outgo of more than 700 girls under 16 years of age means to the community as well as to the girls. Are they prepared to take their place in the labor world, where approximately 10,000 women exclusive of home workers were employed last year,[3] and what sort of preparation might have been given them?

C. Schooling.—Only 6 per cent of these girls have gone beyond[4] the grammar grades; 8 per cent left school before reaching the sixth grade; about one-third dropped out in the sixth and seventh grades alone, and over one-half left school before reaching the ninth grade.[5] If all statistics, however, were complete, the proportion in all these groups would probably be larger, as the base used is the total number considered rather than those reporting.

D. Nationality.—It is the natural assumption after visiting the factories to suppose that the exodus of young girls from the schools into the factories can be explained by the fact that large numbers are of southern European birth or descent. It is somewhat surprising, therefore, to find that 31 per cent of the girls who left school without special economic pressure were of Scandinavian, 20 per cent of American, and 20 per cent of Irish descent.[6]

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[1] Population of Worcester, 1905—128,136. (Census of Massachusetts, 1905, I.) Population of Worcester, 1910—145,986. (Special statement from Bureau of Labor, December, 1910.)

[2] Seven hundred and twenty-seven age and schooling certificates issued in the year September, 1909-September, 1910.

Age, under 14, 7: 14 and under 15, 481; 15 and under 16, 177; 16 and under 17, 36; 17 and under 18, 4; unclassified, 84; total, 727.

Under 14 years of age, 7: 11 years and 10 months; 12 years and 2 months; 12 years and 5 months; 2 of 13 years and 10 months; and 2 of 13 years and 11 months.

[3] Statistics from reports of factory inspection, together with data gathered from a personal study.

[4] See p. 56.

[5] See p. 57. No data were secured on such a large number that the percentages are based here on the number reporting.

The northern European nationalities were also the predominating social elements leaving the schools of Cambridge and Somerville, which seems to indicate that for some reason the children of southern European descent are not found in large numbers through the public-school records. This can probably be explained in three ways. A large number of the children of southern European birth or descent probably receive their schooling in the parochial schools. Some of the young girls observed in the industry were probably 16 or over at the time of their immigration to this country. Finally, there is reason to believe that some children get into industry without certificates, a fact which is also noted in the Government study of women in industry made in 1907.[1]

E. Economic and intellectual status of families.—Sixty-six per cent of the girls from 214 homes chosen from typical sections of the city might in the opinion of the visitor have gone on to school. Taking every factor into consideration, however, such as irregularity of parents' work, or father or mother dead, fully one-half, on a very conservative estimate, might have had longer schooling. Fully 55 per cent of the girls who left school in the past year came from really comfortable homes, and 58 per cent from intelligent families.

The importance of these facts becomes apparent when it is discovered that almost one-half of those going to work without special economic pressure were 14 years of age; that 25 per cent had not reached the seventh grade, and 60 per cent could not have passed the ninth-grade test. The surprising fact that one-quarter of those who left school without special economic pressure had not reached the seventh grade emphasizes the need of some kind of training which will capture these motor-minded girls and offer incentive for longer schooling.

Some 30 girls said they did not like school, could not get along with the teacher, were not promoted, or wanted to go to work. Two were working to help pay for a piano. One of these was a cash girl of 14 years who had left the ninth grade to go to work in a department store for $2, later $2.50 a week. The other was a girl of 15 from the eighth grade who went to work in a corset factory for $1 and rose to $4.82. Another girl was taking music lessons and contributing to the payment on the piano.

Twenty-seven girls were staying at home. In some cases they had left to help at home, while a few had left at a time of temporary stress and then had not returned to school. Four girls had changed places with the mother, who worked in a corset factory, laundry, or some such place, while the girl, whose wage-earning power was small, kept house for the mother or the children. A few were at home

[1] Report on Condition of Woman and Child Wage Earners in the United States, 1. Cotton Textile Industry, 1910. (61st Cong., 2d sess., S. Doc. No. 645, 135-162.)

because they could not get along at school, but need not necessarily work.

The standard of living and ambitions of the family are, after all, the determining force. The mother of a family of 8 children living in apparently direst poverty would have been glad to make sacrifices and pinch still further to have her daughter stay in school longer, if she would do so. The mother of another family of 6, living in a nice apartment house, with hardwood floors, piano, and other luxuries, said her daughter wished to stay in school longer, but the burden of supporting the family was too heavy for the father to bear alone; so the girl was taken out of school to go to work. A visit to a Swedish family revealed a carpenter and his wife, a washerwoman, who had just built and owned a nice new three-story apartment house. Yet the 15-year-old daughter with a seventh grade education had been sent to work in a paper-goods factory at $2 a week.

The question "Why did you leave school?" was put to some 336 more mature workers in the corset trade. Ninety-one per cent of these women had left school between the ages of 13 and 16, and fully 50 per cent because of their dislike of school or because they wanted to go to work. Of 74 workers in a clothing factory, 85 per cent had left school between the ages of 13 and 16, 25 per cent of their own volition.[1]

Such facts emphasize the large demand for training which gives opportunity for manual combined with mental development. During these years between the ages of 13 and 15 there is a marked desire for manual or physical activity, a characteristic natural to this stage of physical development, which must find expression in the actual doing of things. The parents of these children leaving school, in many oft-repeated instances, were willing, and, as has been shown, fully one-half were economically able, to have the daughter stay in school longer, but "when she takes a notion in her head, there's no doing anything with her," so she goes to the mill, the factory, or the store at $1, $1.50, or $2 a week, which in many cases is more than she is worth to her employer.

Visits and talks with the families as well as the girls, therefore, reveal a situation which quite contradicts the usual impression that the parent takes the child out of school or forces her to go to work at an early age.

F. Summary.—The foregoing statistics show several most significant facts: (1) That more than 700 girls under 16 years of age took out certificates to go to work in the past year, and that this number is increasing at the rate of 40 per cent, or about 200 girls in five years.

[1] These percentages are very conservative statements. Many workers did not specify whether volition or necessity was the cause of their leaving school, merely answering "to go to work." None of these answers were included in either group in determining the percentages.

(2) That 60 per cent leave at the earliest age the law allows, at 14 years of age. (3) That 8 per cent could not pass the fifth-grade test, one-third could not pass the seventh-grade test, and one-half could not pass the ninth-grade test. (4) That this exodus does not indicate economic necessity. Of 214 families studied, fully one-half the girls were not forced to curtail their education, and 55 per cent were living in really comfortable homes. Furthermore, almost one-half of those children who might continue in school were only 14 years of age, and one-fourth had not reached the seventh grade.

IV. INDUSTRIES WHICH YOUNG GIRLS ENTER.

A popular supposition seems to prevail in Worcester that the majority of young girls who leave the grammar grades go into mercantile establishments. But only 22 per cent, or less than one-fourth of the total number, entered that industry last year. The factories and mills claimed more than three-fourths of them.

Of the latter, the corset factories and the textile and knitting mills, drew 56 per cent of the girls, the corset factories getting 28 per cent, or the largest proportion of the whole. Five other industries claimed the majority of the remaining girls—the manufacture of metal goods, 10 per cent; paper goods, 6 per cent; shoes and slippers, 4 per cent; women's clothing, factory product, 5 per cent; and food and drug products, 3 per cent.[1]

But two determining forces appear to decide what industries the most of the girls enter. The young girl who lives in the neighborhood of a large factory or mill is likely to work in the nearest factory during the first few years, but distance from home is a less important factor as she becomes older. The occupation of an older member of the family, primarily the mother or older sister, is a very apparent determining factor. Of the 214 girls visited, about 25 per cent were working in factories where their mothers or sisters were working or had worked.

V. KINDS OF WORK DONE BY YOUNG GIRLS.

A. Unskilled industries.—In all these factory industries[2] (excluding dressmaking and millinery) the girls of 14 to 16 perform unskilled work. This may assume different forms, as boning corsets or tending machines in the corset factory; running errands; folding waists, dresses, or shirts in a clothing factory; doffing in the textile mills; putting pasteboard sheets into a machine in the paper box factory.

[1] See p. 58.

[2] This term has been used throughout the report to indicate those industries which are in the process of developing an advanced stage of industrial evolution. Such industries, whether employing a large or small number of workers, show a fairly high subdivision of labor, specialised and repetitious work, use of artificial mechanical power and also that peculiar characteristic which differentiates them from large highly skilled industries—a standardisation of process or product.

Whatever the kind of work or process, there is one feature common to all this unskilled work [1]—the purely mechanical performance of a monotonous process requiring little thought, intelligence, or ultimate responsibility, and destructive to rather than promotive of the power of initiative and intelligent thinking, and capacity for a higher grade of skill. Since little ability or intelligence is required, the supply of labor for those stages of the work is plentiful, competition great, and pay correspondingly low. Certain of these industries might, nevertheless, appear to be preferable for different reasons for the young girls just out of school. One industry might seem to offer opportunity for financial rise or self-development for the mature worker. Another not having this qualification might be preferable because the type of work and product handled are nice and clean, and the sanitary conditions superior. On the other hand, certain industries might be discouraged for young girls because of the necessity of continuous standing, damp or oppressive atmosphere, or severe physical demands.

It is hardly necessary to discuss here the lack of opportunity and the low wage received by young girls in the three great factory industries—textile mills, metal trades, and paper goods. Besides these disadvantages, we may briefly note the influence of the noise and vibration of machinery, continuous standing, and heavy, oppressive atmosphere on the young girls in the textile mills, which rank second in the number of women employed. The metal trades, which rank third in the number of women employed, make heavy demands on the physical strength of the young workers; so much so that some employers allow women workers to work only one-half day at the machines, and to spend the other half on some process requiring less physical strength. The paper trades, which rank fourth as women-employing industries, offer clean work and pleasant surroundings for the girls. The processes are, however, largely mechanical and monotonous, and the trade does not offer large opportunities for development or financial advancement.

B. Mercantile establishments.—The department stores and shops of Worcester, which draw almost one-fourth of the girls leaving school, might seem to offer a better field and more opportunity for advancement. Girls of 14 to 16, however, must usually begin as cash or floor girls. The much more comprehensive study of 1906 [2] showed that few cash girls rose to the higher position of saleswoman because of lack of maturity and ability.

C. Medium skilled trades.—Machine operating: The machine-operating trades, such as the corset trade, certain branches of the

[1] This classification is based on the definition and classification used in the Report of the Commission on Industrial and Technical Education, 1906, pp. 33–34.

[2] Report of the Commission on Industrial and Technical Education, 1906.

women's clothing trade, shoe and slipper trades, under the best conditions would seem to offer a better field and more opportunity for advancement than the other great women-employing industries of Worcester. This is, however, an apparent rather than a real opportunity for the majority of young girls. Although the elementary processes which occupy the young inexperienced girls in these trades do not afford training in or working knowledge of the more skilled work, the most efficient girls are promoted by virtue of faithful service or adaptation to the factory.

D. Instability of workers in factory industries.—The great question, however, is: How many of these girls get beyond the unskilled labor stage and are able to profit by the opportunity for advancement? The preliminary processes, such as boning and machine tending in the corset factories, examining, cleaning, finishing (that is, snipping loose threads or giving any necessary finishing touches) in the women's clothing factories, are purely mechanical processes which more than one foreman has pointed out "don't require any brains or intelligence." The financial compensation naturally is small, based in most cases on the piecework system. Consequently, only those capable of a high degree of speed and application—attributes not characteristic of the 14 or 16 year old girl—can survive. The girl soon tires of the monotonous repetition of work and inability to meet the demands of the trade. Failure to realize sufficient income, inefficiency, discouragement, or slack season usually solves the problem and she determines to try something else.

Does the girl profit by this experience? Does her employer profit by her unskilled and uncertain work? The responses from employers reveal one of the greatest evils of these low-skilled industries, which alone[1] receive young girls—the instability resulting from the constant shifting from factory to factory.

The three corset factories,[2] employing 320 girls on machines, 93 per cent of the girls under 16 employed in the corset trade,[3] reported that a large proportion of the young girls drop out before they are promoted to the more skilled processes because they get discouraged and impatient. "One-half of the girls," remarked one superintendent, "get discouraged before they reach the point of maximum speed, and quit when they are probably just about to strike a paying point." Several factories have adopted various expedients to protect themselves against this shifting of the workers. One corset factory charges the learners the amount equivalent to the loss of time of the one who teaches her. This amount is refunded if she

[1] The proportion of girls 14 to 16 years old taken into millinery and dressmaking is so small in comparison as to be practically a negligible quantity.

[2] Of the 6 established in Worcester.

[3] Numbers based on statistics from factory inspector's report, together with statistics gained from factories visited.

stays six months.[1] In spite of this provision, the proprietor estimates that he loses annually more than $1,500 on his learners. A clothing factory requires a deposit of $1 from all learners. Another clothing factory keeps back $10 for loss of the forewoman's time, which is refunded to the worker at the end of the first year if she is still working in the factory.

Reports from the less skilled industries show a still more serious situation. One of the large paper-goods firms, with a total force of 200 workers, says he "takes on 250 learners during the year and that 50 per cent do not stay long enough to give themselves or the work a fair trial. Many come from curiosity and stay only a week or two, yet each girl has cost several days of the time of a high-priced forewoman." The manager of a biscuit factory employing about 75 workers says the girls stay with the factory only a short time. A wire factory with a still lower grade of work shows still greater fluctuation in the working force. The processes can be learned in a few days and the maximum wage reached in two months. The result is that, although the regular force consists of about 150 women workers at any one time, from 450 to 500 learners pass through the factory in a year, generally staying but a few months.

Shifting for betterment would be advisable if the workers actually bettered their condition. But this is an open question. All learners or inexperienced workers in any trade, whether it offers a future or not, must serve a certain amount of time in the unskilled processes. A large proportion do not stay long enough in any one trade to become skilled workers. The result is an army of drifters and unskilled workers always condemned to irregular and uncertain work, inefficiency, and low pay. The instability and irresponsibility of young workers, together with the efforts of the Consumers' League, have resulted in the exclusion of girls under 16 from the better factories and industries. Five of the eleven clothing factories visited, employing about 750 women workers, do not admit girls under 16. Unfortunately, this increasing tendency to exclude girls under 16 from the better factories has a reflex action on the industry itself, complicating the labor problem of the better industries, by allowing the unskilled trades to ruin those who might in mature years become skilled workers.

The girls of 14 and 15 leaving school to go to work then have little choice except the unskilled industries, where they must spend from one to two years in purely monotonous or mechanical work. After one to two years' experience, they are eligible to the more skilled industries from the standpoint of age; but the study of 200 women in one of the highly skilled trades of Boston and 10[illegible] in those of

[1] Amount not ascertained.

Worcester has revealed only 4 workers who began their career in unskilled trades.[1]

The effect is, however, equally disastrous to the industry. All employers in all kinds of business complain of the scarcity of responsible, to say nothing of skilled, workers. One clothing factory was forced to send to New York this fall and import a large number of workers. Another had to close one room of its factory, with a capacity for about 40 workers, because of inability to get workers. One of the clothing firms offered the investigator $5 for every worker she would send him. Dressmakers are closing their shops and going to work by the day or into the shops because of inability to get help. The demand for skilled workers far exceeds the supply. The opportunity for the skilled worker is great; the opportunity for the worker to acquire this skill is small.

The present method of learning the trades in the factories has proved far from satisfactory to all concerned. The new worker usually "picks up the trade" with what aid and time the forewoman or some other skilled worker can give. The majority of firms of the various industries visited agree that this is an inadequate and expensive process. The demand on the forewoman's time is continuous and the return small, since a large proportion of the workers do not reach the stage where they can give adequate return. The proprietor of the corset factory who estimated that his learners caused him an annual loss of $1,500 has been cited. The proprietor of a shirt factory estimated that each learner meant a loss of $50 to the firm. A shoe firm "will not bother with green girls—too expensive," while another takes only bright girls. A paper firm reports that one girl teaches another in both hand and machine work, but that this is an expensive method.

E. Summary of industrial conditions which confront young workers.—Several facts, then, are to be noted. The little girl of 14 or 16 has an opportunity to enter only unskilled work. The monotonous mechanical work which she does is destructive to rather than promotive of intelligence, responsibility, and preparation for a higher grade of work. The masses of young girls do not easily adapt themselves to this mechanical, monotonous work; drift from one place to another, thus learning or becoming proficient in no one trade. When they reach the age which makes them eligible for a higher kind of work, therefore, the masses have not developed or have lost the power to take advantage of the opportunity now opened to them. The factory industries requiring more skill have no satisfactory system of training the prospective worker for the trade. The result is that the mass of workers who begin work in the unskilled trades remain there and never get any higher.

[1] Study of dressmaking made by the research department of the Women's Educational and Industrial Union, Boston, to be published in its series on Economic Relations of Women.

F. Need of trade-training school.—One great need of the industrial world stands out prominently—a trade-training school which can take the 14 or 15 year-old girls who will not go to the regular schools and must go to work in a year or two. If this trade-training school can give her such equipment that she may be lifted over the preliminary unskilled processes in the industry and put upon work which continually trains and develops her for a higher kind of work, the great mass of unskilled, unstable workers must in time decrease.

VI. WOMEN-EMPLOYING INDUSTRIES OF WORCESTER.

With this in view, three problems come up for consideration: First, what are the women-employing industries of Worcester? Second, what are the opportunities as to numbers needed, self-development, financial compensation, and future outlook in each trade? Third, what can be done to adapt the women for the better trades and adapt the trades to the women workers so as to secure for both the best possible results? In other words, what is the need of and opportunity for trade training?

The general facts learned from the study of a single year's group of girls serve as a fairly good index to the women-employing industries of Worcester. Statistics show that approximately 1,300 women and 138 minors were employed in the mercantile establishments of Worcester during the past year; that 8,000 women and 1,000 minors, not including home workers, were employed in manufacturing in Worcester;[1] that is, five-sixths of the women and five-sixths of the minors at work are engaged in manufactures.

Four industries occupy almost 90 per cent of the women employed in manufactures. The machine-operating trades, covering the production of corsets, women's clothing, and shoes and slippers, stand foremost, with 52 per cent of the women and 65 per cent of the girls employed in these four industries. The textile industries rank second, employing 18 per cent of the women and 20 per cent of the girls. Wire and metal goods rank third, with 15 per cent of the women and 9 per cent of the girls. The metal trades draw a comparatively small number of girls from school, because of the heavier physical demands. Envelopes and paper goods rank fourth, with 13 per cent of the women and 5 per cent of the girls.

[1] Statistics from records of factory inspection. These figures must be accepted as indicative rather than statistical.

Four factory industries employing women in Worcester.[1]

Industries.	Women.	Girls.
1. Machine operating	3,680	444
Corsets	1,898	398
Women's clothing	1,393	28
Boots and shoes	389	18
2. Textiles	1,281	137
3. Wire and metal goods	1,092	62
4. Envelopes and paper goods	937	39

[1] Statistics gained from records of factory inspector, together with those acquired by personal visits.

A. Unskilled industries.—The textile industry, wire and metal goods and paper goods manufactures offer comparatively small opportunity for self-development, as has already been shown, though in some cases larger opportunity for financial advancement. The majority of the processes in the textile mills are highly mechanical and offer little opportunity other than tending machines. Weavers get good pay ($5 to $14 per week), but this branch has been closed to women in one large factory, because of the 56-hour law. In the carpet mills a large number of hand sewers are employed, and receive $12 to $18 a week. In the worsted and yarn mills a small number of burlers or menders (hand sewers) receive from $6 to $12 a week.

The metal trades are probably the most hopeless of all trades as an industrial career for women, yet they are the third largest women-employing industry of Worcester. The superintendent of one of the large wire factories granted that "there is little future" in the trade. Beginners in this factory start with 75 cents a day, the majority getting $1.75, with a maximum of $2 a day.

The paper trades are more desirable, in that the physical demands are less severe, the work cleaner, and the surroundings probably more attractive. The manager of a large envelope factory, however, frankly says there is no future in the business for girls, and that only workers of a type not high enough for skilled trades should be encouraged to go into it. The average girl learns the processes in one to two months, but according to one employer requires three years to reach the maximum speed. Folding of envelopes by machine is wholly unskilled work, the girl merely feeding the paper into the machine. Folding envelopes by hand requires a certain degree of accuracy, deftness, and speed, as does also covering pasteboard boxes with glazed paper. With the piecework system, envelope makers receive from $9 to $15 and box makers from $4 to $12, according to process and product. The manufacture of fancy paper products, such as valentines, cards, etc., is pleasant and attractive

work, but offers a short working season.[1] There is opportunity for a comparatively small number of designers at $10 to $15, but the majority of the processes are unskilled and offer a range from $3 to $10 a week.

The proprietor of a large paper-goods factory says: "If a trade school could teach girls promptness alone, that would be worth something. Promptness, neatness, and a general knowledge of the industry should be taught those of not high enough type to be good material for skilled trades." This employer has struck the essential point in his appreciation of the need of a broader background and interest. The problem of how and when this broader background can be given the workers of these three factory industries is an open question. The small proportion of age and schooling certificates issued for the paper-goods factories corroborates the conclusion gained from visits to the factories, that the majority of these girls had reached the age of 16. The proprietors of the three paper-goods factories visited said they get most of their workers from the schools. If most of their workers come directly from the schools, and the majority are 16 years of age, this may account for the apparent higher grade of young girls in these factories.

The needs of the worker in these three factory industries, therefore, are somewhat different. The workers in the textile mills and metal-goods factories leave school early, and have little general or cultural education. The workers of the paper-goods factories may have, on the whole, more of the cultural education, yet the employer in the trade appreciates the need for a still wider interest and outlook. The opportunity for these workers probably lies either in part-time schools or in evening schools for the mature worker, giving a certain amount of supplementary training connected with the trade, but chiefly complementary teaching in domestic and academic subjects. Quite a large number of the girls visited in their homes asked if evening schools would be established, and expressed a desire to attend. A large number, however, would not be reached by evening schools, because of the demands on the physical strength of the girl or woman who has a 10-hour working day.

B. The skilled industries.—(*1*) *Machine operating:* But one group of trades in Worcester, the needle trades, therefore, can be said to lay claim to a high grade of skill and offer opportunity for development and advancement.

The machine-operating trades show a state of transition from the low-skilled factory industries just discussed, to the high-grade skilled trades, dressmaking and millinery, and can not be considered as requiring more than a low grade of skill. The introduction of

[1] September–December, time of maximum employment, 200. April–August, time of minimum employment, 96.

specialized machines which do only a special process, such as tucking, hemstitching, sewing on buttons, making button holes, and embroidering edges—the extreme division of labor, so that one girl does a single process from one day's end to another—and the supremacy of mechanical processes have largely eliminated the need of and the demand for high-grade skill. Practically only three skilled processes exist in the factory-made clothing trades in Worcester. Of these, the cutting is monopolized with one exception by men. Of the two remaining processes, machine operating and hand sewing, the former employs by far the larger number of women.

The degree of skill required in machine operating is largely determined by the grade of product turned out. The machine-operating trades show 5 fairly definite stages of work which require (1) mechanical speed, (2) accuracy combined with speed, (3) accuracy combined with deftness, (4) constructive ability, and (5) artistic ability.

Machine operators on canvas goods—tents and awnings—or on overalls, stitchers and tuckers in a muslin-underwear factory, must acquire mechanical speed, primarily. Such workers are little above the envelope workers in degree of skill, with this slight difference, the power-sewing machine is subject to the worker who must feed the material through the machine straight, while the folding machine of the envelope feeder is wholly independent of the worker. Yet modern invention has introduced self-feeding, self-regulating hemstitching and tucking machines so that one girl can superintend 4 machines—merely walking back and forth to see that everything is going right. A single industry, like the manufacture of corsets, for instance, offers the first four stages of work and necessitates the corresponding qualifications in the workers. A factory which produces a 69-cent or a dollar corset made of cheap materials, with little attention to lines and adaptation to form, requires a comparatively small de ree of skill and can be turned out at a high speed by a comparatively low-skilled worker. A factory which, on the other hand, produces a four or five dollar corset made of expensive materials with much attention to style and lines must have skilled workers of intelligence, deftness, and accuracy. The manufacture of high-grade waists and dresses requiring a high degree of skill and artistic ability has not yet been introduced in Worcester. The individual factories and kinds of products are therefore important in determining the desirability and possibilities of the trade.

The different processes requiring different degrees of skill, responsibility, and intelligence are open to the various kinds of workers best adapted to each; and the degree of skill, combined with the speed of the worker, determines and explains the wide range of pay discovered in the machine-operating trades.

An average girl can learn to run a power machine in a few weeks but needs from 6 to 12 months to become a skilled worker and secure a wage of $6. The weekly wage varies a good deal, according to the individual speed and skill, and the supply of work, which fluctuates with the different seasons. Machine operators in the corset factories range from $6 to $15. This range expresses largely a difference in speed and skill.

Summary of women and girl workers and of wages in the three largest corset factories.

Occupations.	Employees.		Weekly wages.[1]		
	Women.	Girls.	Min.	Max.	Maj.
Machine operators	1,090	320	$6	$15	$9
Hand sewers	427	35	5	12	9
Pressers	78	.....	8	11	9
Examiners	26	.....	6	10	7
Boxers	15	.....	3	10	6

[1] Some machine-operating wages go as low as $1.50 during dull time of stock taking.

The $6 girl does the simple processes and works on the cheaper product. The $15 girl does the most skilled processes and also handles the best type of product. One firm reported that the machine operators sometimes drop as low as $1.50 a week during dull time of stock taking, but it is difficult to get statistics on the dull season without a canvas of the individual workers, because of its variation.[1] The employer is usually reluctant to say or does not exactly know what is the seasonal fluctuation, but three factories report that the months of November, December, and January are the times of minimum employment.

Machine operators on tents and awnings and heavier, coarser products require the lowest degree of skill and receive a correspondingly low range of pay, from $5.25 to $8.25. The range of wage here expresses primarily the range in speed. The machine operators of the 6 underwear factories and the 2 women's clothing factories must possess a wider range of skill and showed a usual range of $5 to $14, with the majority probably receiving from $7 to $9, though one girl in an underwear factory was reported to be receiving a wage of $18.

[1] The study of individual girls and of pay rolls in Boston firms is now being made by the research department of the Women's Educational and Industrial Union of Boston, and should contribute much to the correction of the wage irregularity. See also Goodman, Pearl, and Ueland, Elsa, The Shirtwaist Trade. Journal of Political Economy, December, 1910.

Six underwear firms—Illustrating kinds of work and wages of women.

Occupations.	Women.	Weekly wages.			Firms reporting.
		Min.	Max.	Maj.	
Machine operating	348	$5	$18	$9	6
Ribbon girls	15	3	4	4	3
Pressers	22				2
Examiners	8			4	2
Finishers	24	6	7		1
Cleaners	24	6	7		1
Trimming preparers	10	6	7		1
Lace girls	5			6	1
Outside workers					1

Women's clothing factory—Product: Shirtwaists and dresses.

Occupations.	Women.	Girls.	Weekly wages.		
			Min.	Max.	Maj.
Machine operators	160	4	$6	$15	$8–$10
Finishers	12	3–4			6– 8
Fitters	4				7– 8
Pressers	8		6		
Folders	2		6	9	

A typical shoe factory.

Occupations.	Employees.		Weekly wages.		
	Women.	Girls.	Min.	Max.	Maj.
Vampers	12		$16	$25	$20
Eyelet workers	2		13		18
Back stayers	4		12	18	15
Tip stitchers	2		13	15	
Top stitchers	5		12	20	15
Lining makers	6		8	12	10
Sorters		8	4	5	
Packers		12	3	4	
Skivers	2		8	12	9

Machine operating in a shoe factory requires a high degree of skill, and the wage is proportionately higher. The lining makers, who earn from $8 to $12, and work on heavy cloth, are the lowest paid machine operators in the shoe trade. Next beyond them in point of skill and earning capacity are the operatives who do the simpler parts of the stitching, back staying, etc. The most highly skilled workers are the vampers, who stitch together the vamps and the uppers. The difficulty in this process comes in being able to follow the curve of the vamp, and to join together the vamp and the upper part of the shoe in such a way as not to destroy the fit of the shoe. The range of wage in this trade then expresses a range both in skill and speed as in the better corset factories.

A forewoman in one factory said that a knowledge of machine operating on cloth would be of value to a girl in adapting herself to work on leather. The difference rests primarily in the strength required to run the heavier machine, and in the ability to handle the heavier material, as well as in the knowledge of the special machines in use in shoe factories.

The study of machine operating, therefore, shows that Worcester contains a large number of factories demanding ordinary machine stitchers at a maximum wage of $7 to $8, with a certain amount of seasonal fluctuation, though probably not longer than what might be called vacations. Also, without doubt, there are a fair number of opportunities for the better class of work, such as that found in factories producing the best grade of corset, and ranging from $12 to $15, with a smaller amount of slack time. Finally, opportunity exists for a large number in factories where the better grade of underwear is manufactured. Here the type of work is superior, or, at any rate, may lead toward the manufacture of finer goods, with a wage ranging from $5 to $14, and in a few cases as high as $18, though the majority probably receive not more than $8. The shoe factories of Spencer and Webster and the straw-hat factories of Upton offer opportunity for higher grade work and financial advancement. Although at present there is little or no interchange of work and worker between Worcester and these cities, these opportunities for better work and better pay may in time be seized by the people of Worcester, who have been trained in the machine-operating trades.

It is into these factories of Worcester that the larger number of young girls must go, and a certain amount of training for this trade will provide the means of entrance and advancement. It must be noted, however, that the opportunity in the trade is not such as to attract very large numbers of girls of great ability, as the room at the top is limited. It is, in general, the girl with less ability or the girl with the pressing need of economic independence who should be trained for this trade. The wage is probably as good as could be secured in other types of work accessible, and there is an opportunity for a high wage for the intelligent worker, while the type of work is superior to that in the other great industries employing women in Worcester. From the point of view of the trade and from the point of view of the girl, trade-school training may well be given for the machine-operating industry; because, first, it is the largest women-employing industry in Worcester; second, the demand far exceeds the supply of skilled workers; and, third, there are some branches of the work requiring a certain degree of skill and good financial remuneration. There are also neighboring towns where the demand for the most skillful operators in shoemaking and straw-hat making is very great.

No satisfactory or adequate system of training for the more skilled processes exists in any of the factories, so that the need of some method of systematic training is evident, and the advantage of profiting by the opportunity offered would doubtless soon become apparent. A large amount of training in the specific processes of the trade, however, does not seem necessary and, with the wage prospect as it now exists, not desirable. Four facts seem to prove that the outlook is encouraging for a favorable reception and for patronage of a trade-school course: First, the better factories in these trades do not receive girls under 16 for machine operating; second, employers show great interest in and approval of such a project; third, the economic condition of the family indicates that parents in Worcester could send girls to such a school; fourth, parents and children are interested in the suggestion. Possibly it would be necessary at first to begin with the shorter courses of 3, 6, or 9 months with the hope that as the school proved its effectiveness there might be added to the purely technical course, training in the needle trades and other subjects, which would make the girl more intelligent, more capable of advancement, and develop that larger power for economic independence which comes through right living and right spending.

The problem does not seem to be one of ability on the part of the family to give the child this training, but ability on the part of the school to persuade the child and parent that such training will in the long run be desirable. The fact must be faced that such courses are preparing the girl for the medium opportunity both as to the wage and as to development, with but comparatively small outlook toward the more advanced type of work and higher wage. For this reason it may seem desirable that different units of courses should be established as time goes on, starting with the shorter courses. Also it may become necessary to consider an effort to introduce part-time courses or regular courses in the dull season, if it is possible to discover that the less-skilled worker is dropped off earlier and would therefore have a sufficiently long dull season to make it worth while. Finally, it may prove wise to consider the establishment of evening continuation courses for the more mature workers.

(2) *Dressmaking:* But two industries requiring and offering opportunity for high-grade skill—dressmaking and millinery—are found in Worcester. The opportunity in this field is restricted here in two ways: First, in the smaller field and demand, and, secondly, in the high degree of skill, natural ability, and taste requisite for success. At present there are about a dozen dressmakers in Worcester who employ over 10 girls. Three of these employ a force of 20 to 30, and about 9 employ from 10 to 17 girls. Only about 18 of the 398 dressmakers in the city directory could be classed as employers in the true sense. A larger number employ two to three workers at

certain times of the year, but the majority, nine-tenths at least, are home or day workers, which illustrates the opportunity open to this type of worker.

Although Worcester is a social and economic entity, trades which are dependent on local custom and patronage suffer from proximity to Boston. Therefore, while the size and wealth of Worcester might seem to indicate large opportunities in dressmaking, the field is greatly decreased by the fact that the wealthier people of Worcester go to Boston to have their best clothes made or to get clothes ready-made. These people say they can not get as good a product in Worcester as they desire. The Worcester dressmaker says she could give as good a product as the Boston dressmaker if she could get the same price for her product.

However that may be, the dressmaking trade and the dressmaker of Worcester are greatly handicapped by lack of responsible and skilled workers. Some say they refuse work rather than take on new and unskilled workers to meet the increased demand. Others close shop to accept the better-paid openings in the large establishments or to go out by the day because of the dearth of skilled labor. Advertisements for well-paid positions run for months for lack of skilled workers to fill them. Several causes explain the great dearth of workers in this most desirable trade. First, only two or three of the smaller dressmakers visited will take apprentices, so that the trade is practically inaccessible to young workers. The only means of entrance for the young girl is probably through the errand-girl stage. The errand girl picks up the trade at spare moments, but this is a slow and haphazard method. Moreover, there are openings for only about a dozen errand girls in Worcester. Second, the dressmaking trade has more of a professional character and necessitates a longer period for training and growth than do the factory industries. Finally, a higher degree of natural ability and artistic taste is being increasingly required, which explains to some extent the disappearance of the old apprenticeship system in this trade and the lack of workers able to qualify for the trade. Practically every part of this trade has become such a skilled process and material is so expensive that there is little opportunity or need for unskilled workers.

How, under these circumstances are young girls to learn this most desirable trade? Almost all the larger employers prefer young workers who bring freshness, deftness, and originality, but have not the time nor opportunity to teach young girls in the shop. Almost all are desperate for more workers, but where can they get them? The employer has no time to train young girls, and practically only one very limited avenue to the trade now exists, the entrance as errand girl, a pseudo-apprenticeship, as a French student has termed it. This method is, however, unsatisfactory to employer and employee; to employer because it can not meet the demand for numbers

and for young workers equipped with the fundamental principles and processes of the trade; to employees, because it can not be adequate or systematic, and necessitates a long preparatory period of low pay and seemingly small return.

The dressmaking trade, therefore, shows the greatest need of some kind of a trade school where the girls can obtain the fundamental principles of the trade. Some workers with one year's training will be in demand in the trade. A larger number with two years' or more preparation will be required, for only large shops employing specialized workers need the smaller and less experienced girls in the workroom.

The outlook as to numbers and large pay is not yet very great in Worcester, due to the fact that the dressmaking trade there has not reached the higher stages of economic development. In Boston, for instance, seven distinct stages of economic transition are apparent in the dressmaking trade: (1) The day worker who goes out by the day at $1.50 to $4 a day; (2) the private dressmaker with a force ranging from 1 to 7 girls who are general workers of a medium degree of skill and ability receiving from $5 to $8 a week; (3) the small custom dressmaker with a force of 6 to 10 girls, of whom 1 usually has the title of head girl. The general workers receive from $5 to $8, as in the preceding stage, and the head girl from $9 to $10. (4) The larger custom dressmaker next appears with a force of 15 to 30 girls, among whom are a head waist girl, receiving from $12 to $15, head skirt girl with $9 to $12 and the usual subordinate workers characteristic of the preceding stages. (5) In the fifth stage each division of the actual production is isolated, with a head girl in charge of each; the head waist girl, head skirt girl, head sleeve girl, and head lining girl, each with her subordinates on a descending scale as seen in the preceding stages. Shops of this type have a force of workers ranging from 20 to 60 girls, who show a wide range of skill, responsibility, and corresponding compensation. (6) The sixth stage may be called the stage of specialization, where the head of each division of the work is a specialist. The head dressmaker with a weekly salary of $25 to $35, cutters and fitters appear in addition to the specialists in the actual production seen in the preceding stage. (7) The shop of the seventh stage shows one new and additional feature, the combination of sales and production departments. The shop of this stage may assume two forms, the commercial type in which a sales department of ready-to-wear gowns is added to the department of custom production, and the manufacturing type in which the so-called custom production for both local and more general, but still a so-called retail market is carried on. Such establishments have a head dressmaker with a weekly wage ranging from $35 to $50, and, in some instances, higher.[1]

[1] These statements are drawn from an extensive study of the dressmaking trade which has been made by the research department of the Women's Educational and Industrial Union, Boston.

Five types of dressmaking shops in Worcester, illustrating kinds of work and wage.

Type of shop.	Employees.	Cutter.				Waist draper.			Skirt draper.			Coat girl.			Sleeve girl.			Finisher.				Helper.			Errand girl.		
		Employees.	Wages.			Employees.	Wages.		Employees.	Wages.		Employees.	Wages.		Employees.	Wages.		Employees.	Wages.			Employees.	Wages.		Employees.	Wages.	
			Min.	Max.	Maj.		Max.	Maj.		Min.	Max.		Min	Max.		Min.	Max.		Min.	Max.	Maj.		Min.	Max.			
Large shop, high-grade custom	79–38					1	$20		1	$15	$18	1	$15	$18	1	$6	$12	19	$7	$10		5–6	$4	$6	1	$3	
Small shop, high-grade custom	15	1	$12	$15		1		$10							1		9	11	6	9							
Small shop, medium-grade custom	6–7	1			$10													4–5			$6				1		
Home dressmaker	2–3																	2–3			7½						

[1] For 3 months.

The first five of these types of the dressmaking shop exists in Worcester. Since there is only a comparatively small number of establishments which employ a large force, there is opportunity for only a few highly paid workers, as the employer herself in most cases does most of the skilled work. One shop, however, has a waist cutter and fitter who receives $25 a week, another shop a head waist girl at $20 a week. Three reported head waist, coat, and skirt girls between $12 and $18. The remaining report $8 to $10 for waist and skirt makers and $3 to $7 for helpers and finishers. Six or seven smaller dressmakers employ 4 to 6 girls at $6 to $8. Day workers receive from $1 to $3.50 a day.

The demand for hand sewing in the factory industries is rapidly decreasing with the continual increase of perfected and specialized machinery. Corset factories turning out a high-grade product, however, employ hand sewers to sew lace on the more expensive product. One such corset factory alone employs 400 hand sewers at about $9 a week. Machines have wholly displaced handwork in the manufacture of muslin underwear, wash waists, and dresses. Heavier clothing, such as suits, coats, and skirts, still employ hand finishers at a weekly wage ranging from $6 to $15. The field is, however, quite small in this branch of the clothing trade of Worcester.

The higher type of girl, the broader education, and the greater stability of workers in the dressmaking trade stand out in marked contrast to the shifting force of the unskilled trades.[1] The larger dressmakers say they seldom take on a new worker, holding their regular force year after year. Some of their workers have been with them 10, 14, and even 18 years. Reports from 54 workers in the trade showed that only 8 had had any previous occupation, and only 3 had worked in an unskilled trade. The workers, then, in dressmaking have seldom approached this high-grade skilled trade through the unskilled trades, but the custom in Worcester seems to have been to go directly from the schools into the trade. Forty per cent of the 54 workers studied were high-school girls and 30 per cent from the ninth grade.

The opportunity for trained workers in dressmaking in Worcester, therefore, seems to be for a limited number of young assistants, a fair number of older and abler assistants, and a great number of independent or day workers, with a fair or good wage and a good range in the type of work. This situation distinctly restricts the type of girl who can be advised or expected to go into the trade. It seems to be only the efficient girl, who in the long run may get somewhere near the top, for there is not room for a large number of intermediate workers except in the corset factory.

[1] One employer of 12 girls has not taken on a new girl for 5 or 6 years. Some have been with her 14 years. An employer of 30 girls has only 1 new girl this year.

The great question is, How can the girl get sufficient training and experience to enter the trade? Doubtless she must be older, perhaps 16 or 17, and must have shown some ability to sew, else it will be useless for her to endeavor to enter the trade. This, therefore, means that the girl must not have any pressing or immediate necessity for economic independence and that she must look forward to a moderate income for some time. Although the length of working season in the trade in Worcester would doubtless give as large an immediate income as some of the factory industries, it would not be proportionate to the length of time she may have given to preparation.

The largest trade-training problem is therefore the one connected with that trade which offers the greatest opportunity. There is, without doubt, a demand for a small number of short-course trained girls, 20 perhaps, at present, each year, but there is a fair outlook that with the growth of the industry those types of shops which require young workers might develop, and that the great dearth of workers would result in the utilization of a larger number of well-trained beginners. On the whole, the situation seems to demand longer courses in which the actual trade or technical training shall be much extended, giving to the girl a two, three, or four year course. Such a course, however, would necessitate from the beginning a different plan of work from that offered in the shorter course. The longer course must get the girl somehow into the field. There are apparently certain stages at which she could enter the trade: (1) As a little more mature assistant in a dressmaking shop; (2) as a seamstress; or (3) as assistant to day workers in the home, thus gradually preparing herself to become the day worker of the simple type. As the schools develop, doubtless it will be possible and desirable to establish short dull-season courses, or perhaps short evening continuation courses for the more mature workers, in which instruction shall be given in some particular phase of the trade, such as drafting, waist draping, or designing.

(3) *Millinery:* To a great number of girls, millinery is the most attractive of all the trades, offering, as it does, unlimited opportunity for the exercise of creative ability. Unlike dressmaking, millinery still retains a system of apprenticeship by which young girls can learn the trade. This trade, at least in all but the most exclusive shops, has two fairly well-marked divisions, one requiring deftness and one artistic powers; the one a trade, the other an art. The less skilled division of work, ordinarily known as the making of hats, offers opportunity for a fairly large number of young girls who can profitably be put upon the simpler kinds of work. The dressmaking trade does not have such clearly defined divisions, so that in that trade it is difficult for a wholly unskilled girl to do any part which does not merge into the skilled processes.

The young apprentice in millinery who serves for a year without pay is put upon such simple parts of the hat as making bands and the simpler frames, putting in linings, and wiring ribbons, from which she may progress into the somewhat more complicated work of the "maker." It is in this process that she may be tried out, and the siftings result in the retention of the more able girl who may then become a maker with the power to earn a fair wage with perhaps a longer season than the trimmer. It is from this group and through this educational process that the girl with the artistic ability—the prospective trimmer—is discovered. She must be the woman of real ability and knack. It is not to be supposed that the more expert or even the less skilled maker can succeed unless she has a certain degree of millinery taste, but it is only the girl with the exceptional power who can become the trimmer.

The trade therefore must be looked upon as being almost two distinct trades—the higher being the development through the lower—and each requiring certain similar yet certain peculiar ability for success. However, into the lower trade may go many girls with moderate ability who can make a fair wage in a pleasant trade. Into the higher trade can only be admitted those with the exceptional artistic ability. As a whole, the opportunity in millinery is limited as to wage for the large numbers who may enter. It is limited as to numbers in the highly paid work.

Unlike the dressmaking trade, millinery suffers very little from outside competition in Worcester. Tradespeople say that only a few of the wealthier people buy their hats in Boston, and that the number of customers lost to each milliner in this way is so small as to be almost negligible. There are at present some 50 or 60 milliners listed in the Worcester directory, but probably not more than 20 of these employ over 1 or 2 women. Sixteen of the large establishments were visited, including the millinery shops of four department stores. These establishments report places for 52 learners a year, under the present system, and their total number of employees is about 200. Here, as in dressmaking, the stability of the workers is a marked feature of the trade. Milliners frequently reported that they had retained their most skilled employees 5, 10, or 15 years. Most of the milliners prefer to take girls over 16 years of age, and only 3 establishments were found employing girls between 14 and 16. There are opportunities in plenty for the older girl, but very few for the 14 and 16 year old girl. As the milliners say, "What can you expect of girls of 14? They are only children."

The number of milliners desiring girls over 18 years of age was 2; at 16, 4; at 15, 6; at 14, 2; indifferent as to age of workers, 2.

The number of firms employing no girls 14 to 16 years of age was 2; 1 girl of that age, 0; 2 girls, 2; 3 girls, 1; not reporting, 1.

Types of millinery shops in Worcester, illustrating kinds of workers and range of wage.

Type of shop.	Head trimmers.		Trimmers.				Makers.				Learners.	
	Number.	Wages.	Number.	Wages.			Number.	Wages.			Number.	Wages.
		Max.		Min.	Max.	Maj.		Min.	Max.	Maj.		Maj.
Millinery department of department store	1	$25	3	$12	$20	$15–$18	8	$4	$12	$6–$10	[1]	0
Large millinery store	1	45	10	10	45	15–20	17	3	10	6–10	3	0
High-grade custom shop	1	25	1	.....	18	.....	10	3	10	10	[1] 1 [2] 1	$3.50
Small custom shop	[3]	[3]	[3]	[3]	[3]	[3]	3	6	8	6	.....	.....

[1] Apprentice. [2] Stock girl. [3] Owner does most of trimming.

Millinery, like dressmaking, shows various stages of economic evolution, and a resultant variety of types of shops. Four fairly definite types appear in Worcester: (1) The small custom shop where the employer does most of the trimming and hires several makers at $6 or $8 a week; (2) the high-grade custom shop, employing a head trimmer at $25 a week, a trimmer at $18, some 10 or so makers ranging from $3 to $10, and an apprentice and stock girl; (3) the large millinery store; and (4) the millinery department of a department store, with correspondingly higher pay for the trimmers in accordance with degree of skill or responsibility required.

The wages therefore show a wide range for the trade as a whole, but a fairly common wage in all shops for similar work. The division requiring creative artistic ability shows a wider range, from $10 to $45, as the tables indicate, according to the amount of responsibility assumed and the degree of artistic and creative ability possessed.

Two features of millinery seem to make trade-school work possible for the girl who wishes to enter or who has entered the trade. First, it is more highly seasonal than any other skilled industry for women. Second, it is characterized by an apprenticeship system, which means that the girl who goes into the trade gives her services without remuneration for two seasons, averaging about 3 months each. Unless the girl can find some other occupation for her dull seasons, which cover about 3 months in winter and 3 in summer, she must work for a year without pay. The second year she is started on a small wage, usually not more than $3 a week, and her pay advances by degrees as her skill increases, but, as one employer put it, she does not become a "real milliner" for 2 years. Now it is a self-evident fact that both the seasonal aspect of the trade and the system of apprenticeship which prevails with most milliners tend to exclude the girl who by reason of economic pressure is obliged to get to work as soon as the law allows, and to attract the girl who can afford to

wait for the higher wage which comes with experience and a high degree of skill. Yet all the milliners visited reported a great number of girls from whom to choose. Reports from 51 workers in the millinery trade showed that 40 per cent were high-school girls and 50 per cent from the ninth grade, while none had ever worked in unskilled industries. So that in dealing with the millinery situation, the question of the child's economic ability to avail herself of trade training need not enter into the discussion. It is safe to assume that the child who can afford to go into millinery can afford to go to a trade school.

The question which does confront us, the one which some milliners ask, is whether apprenticeship in a millinery workroom does not give the child a better equipment than the training which a trade school could offer? A survey of the situation leads to the conclusion that the present system of apprenticeship leaves much to be desired from the point of view of the prospective learner. Even with the minimum age limit at 16, as is the case in most millinery shops, there seems to be maladjustment and waste. Only 3 of the milliners interviewed were able to say that most of their apprentices "made good," and 1 of these 3 would not take any learners who were not experienced sewers. Two milliners said they used their apprentices each year with no thought of retaining them when they reached the point where they could demand pay. What, then, can the trade school give these girls which the shops can not give them? A training under teachers who can take time enough to give each girl a thorough try out, their aim being to develop individual efficiency, even though the process may be long and unremunerative.

The labor situation in the millinery trade in Worcester, therefore, is much less serious than in the dressmaking trade. There is an annual demand for about 50 young girls now, showing opportunity for larger numbers than in the dressmaking trade. The opportunity is small for the girl of not much skill, but larger for the fairly skilled worker—that is, for the expert maker—and fair for the skilled trimmer. The pay for the expert maker is good and for the skilled trimmer excellent. But it must be noted that the season in the millinery trade is short.

Girls must be fairly efficient to enter and to continue in the trade. Its workers are necessarily a selected few, for two reasons. First, they must have natural ability and millinery taste. Moreover, they must acquire ability to sew and deftness in handling materials which can be developed with training. One milliner says that one of the requisites of millinery workers in a town like Worcester is the ability to make things over; to renovate, rearrange, freshen up old materials, requiring a large amount of ingenuity. Second, the girl who desires to go into millinery must be efficient, but one who need not

acquire immediate economic independence, because the trade partakes of the nature of a profession. She must be the girl with small necessity for economic independence or a larger wage for sometime to come. The more efficient girl without economic independence may be able to go into the trade, and by a brave struggle succeed, by filling in her dull seasons with anything which she may find to do; but for the less efficient it would be questionable.

A possible solution for the problem of a secondary trade appears in the valentine and fancy paper-goods factory of Worcester. The proprietor of the factory thought a large number of his workers—he employs 200 in the busy season—came from the millinery shops. Unfortunately, at present the busy seasons overlap somewhat. The time of maximum employment in the valentine factory is from September to December, although the work continues through January and February. The busy season for millinery is September and October, and for some workers, November. Since the valentines, cards, etc., are made for the next year's sale, the question arises if it might not be possible to shift the season somewhat in the valentine factory. Millinery workers might be shifted during their dull season into such a factory, and if they proved their superior ability this change would probably come about of itself. The summer season usually brings opportunities in the hotels at summer resorts for girls who are economically dependent. If some such adjustments with secondary occupations could be made, the economically dependent girl who may chance to have real ability and efficiency along lines of millinery art may find great opportunity to enter and develop her art in the trade.

What significance, then, has this situation for the trade school? There would be, without doubt, a demand on the part of a fair number for a short course, which might be offered to the younger girls in the trade school. There certainly seems to be opportunity for advanced and medium dull-season courses or evening courses, since there is a dull season of 3 months in the winter and 3 months in the summer, and since the reports of milliners seem to show a large number of girls not immediately economically independent. Finally, this economic condition might seem to indicate a moderate demand for longer courses of 2 years.

VII. SUMMARY.

Worcester is a city of factory industries which employ more than 8,000 women. Four industries—machine operating, textiles, wire and metal goods, and paper goods—receive 90 per cent of these women.

I. THE EXODUS OF YOUNG GIRLS FROM SCHOOLS.

These industries offer openings for a large number of young girls. In 1910, 700 employment certificates were issued to 14 and 15 year old girls leaving school to go to work, an increase of 40 per cent over 1905. Sixty per cent of these girls were 14 years of age, and more than one-half had not reached the ninth grade in school. Of 214 homes visited, the majority on a conservative estimate showed that economic pressure was not the impelling force of the large outgo of young girls. Yet 25 per cent of these girls had left before reaching the seventh grade, and 71 per cent were from Swedish, Irish, and American families. Such facts seem to indicate the need of additional lines of training not yet provided by the public schools which will meet the demands of the "motor-minded" girls who are not forced by economic pressure to go to work as soon as the law allows.

II. INDUSTRIES WHICH YOUNG GIRLS ENTER.

Two great industries draw more than half these girls just out of school. The machine-operating trades drew 38 per cent, the corset factories receiving the larger proportion—28 per cent, and the textile mills 18 per cent of last year's outgo. The other half are employed in mercantile establishments, metal trade and paper goods, various forms of clothing manufactures, and scattering industries which can not be considered from the industry point of view.

III. KINDS OF WORK OPEN TO YOUNG GIRLS.

The little girl of 14 or 16 has opportunity to enter only unskilled work, or "blind-alley" occupations. Even in the machine-operating trades, where there might seem to be opportunity for rise and financial advance, the opportunity is apparent rather than real; for here, too, young girls must begin on the unskilled, monotonous, and mechanical work. A large proportion of the girls either (1) lose the capacity for or fail to develop the intelligence and responsibility necessary for a higher grade of work; (2) become impatient with the monotony and discouraged with the outlook; or (3) are laid off in slack season and drop out of the trade. The masses of the young girls, therefore, not easily adapting themselves to the preliminary processes, drift from one place to another, thus learning or becoming proficient in no one trade. Hence arises the army of drifters and unskilled laborers. When they reach the age which makes them eligible for the better trades, such as high-class machine operating, dressmaking, and millinery, they have not the capacity for taking advantage of the better opportunities. The more skilled industries have no satisfactory system of training the prospective worker for the trade, so that the mass of workers who begin work in the unskilled trades remain there and have no way of bettering their condition.

IV. WOMEN-EMPLOYING INDUSTRIES.

A. The unskilled industries.—Of the four factory women-employing industries, the unskilled trades—textiles, metals, and paper goods—employ 48 per cent of the women workers. These trades in themselves offer little outlook either for self-development or for social advancement. The workers in the trade are, therefore, all the more in need of opportunity for supplementary trade development. Nevertheless, there would probably be small opportunity for these workers to profit by such courses offered in a technical or trade school except in evening schools for the more mature worker. A large number even then could not be reached because of the demands of the ten-hour working day on the physical strength of the woman worker. In the textile trades alone is found a sufficiently large number of girls to make part time work feasible. These are the workers who leave school at an early age. Therefore, it is through the unskilled industries employing children that these workers must be reached during the 14 to 16 year old period.

B. The skilled industries—(*1*) *Machine operating:* Machine operating, the remaining factory industry, employing 52 per cent of the women factory workers, presents a stage of transition from the unskilled to the skilled trades. Certain phases of machine operating, such as stitching on canvas goods and overalls, hemstitching, and tucking ruffles in muslin underwear, and the simpler and more mechanical processes in the corset factories, can not be called more than low-grade skilled work and hence command a wage ranging from $5 to $10. On the other hand, making the finer, more expensive corset, and certain processes in the better grade lingerie require a fair degree of skill, and good workers can command from $10 to $15. Machine operating in the shoe factory also requires a high degree of skill, the less skilled operators receiving from $8 to $12, while the highly skilled workers range from $10 to $25. Since, however, there are no factories in Worcester which produce a high grade of women's clothing, there is not the opportunity for highly skilled workers on the lighter and more agreeable materials that is open to machine operators in New York or Boston. Increased skill on the part of the workers might perhaps be instrumental in inducing the manufacturers of Worcester to expand their business by the introduction of a finer grade product. The introduction of a trade school might, therefore, augur the development of a more desirable product, hence broader opportunity for highly skilled workers.

The study of machine operating, therefore, shows that there is a large number of factories demanding ordinary machine stitchers at a usual wage of $7 or $8; a fair opportunity for a better class work requiring a higher degree of skill, as in the better corset factory, where a wage of $12 to $15 may be secured; and finally, opportunity

for a large number of operators in the manufacture of lingerie, with a range of from $5 to $15 but a usual wage of $8.

It must be remembered, however, that this trade is not one to attract the girl of great ability, but rather the girl of moderate ability or the girl in pressing need of economic independence.

(2) *Dressmaking.*—But two industries in Worcester offer opportunity for a high grade of skill, dressmaking and millinery. The dressmaking field is restricted from the standpoint of the prospective worker in two ways; first, because of the small number of large shops, and, second, because of the comparatively few highly paid positions, a natural consequence of the small shop. This may, however, be due partly to the dearth of skilled workers in the trade. This dearth of workers has come (1) because of the disappearance of the apprenticeship system as a means of access to the trade, (2) because the dressmaking trade has more of a professional character and necessitates a longer period for training and development, and (3) because of the increasingly higher degree of natural ability and artistic taste required by the trade.

The dressmaking trade is therefore primarily a trade for the girl of natural and artistic taste and the girl without the necessity of immediate economic independence. There are openings for only about 20 young workers, with a year's training, to enter the trade each year at present. The outlook as to numbers and large pay is not, under the existing system, very great, though the availability of trained workers might enlarge the opportunity both for larger numbers and for higher pay. Plain sewers in custom shops or corset factories receive from $6 to $10, a few head waist and sleeve girls range from $12 to $18, and two head waist girls receive $20 and $25, respectively. The beginnings only of specialized work and workers can be seen at present. The large opportunity is distinctly that of the day worker at from $1 to $3.50 per day, and the independent worker, whose wage possibilities can not be discovered. This requires, however, larger experience than is apparently now available through shops.

(3). *Millinery.*—Millinery, unlike dressmaking, still retains a system of apprenticeship by which young girls can learn the trade. The labor situation, therefore, is less serious than in the dressmaking trade. Millinery, like dressmaking, is primarily a trade for the girl of natural and artistic ability, and even more than dressmaking a trade for the girl without the necessity of immediate economic independence, because of the short seasons. In spite of this fact the millinery trade can choose from many aspirants to the trade.

The shops of Worcester offer opportunity for about 50 new workers annually under the present system and about 200 altogether. The trade has two fairly definite divisions. One, requiring deftness and some millinery taste, employs the majority of workers, called "mak-

ers," who range from $3 to $10. The other, requiring a high degree of artistic sense and skill, offers opportunity for a smaller number, but at a higher wage. The ordinary trimmers range from $12 to $20, though two were discovered at $25, and one in charge of a large force at $45.

V. CONCLUSION.

The industries in which women are and can be employed in large numbers may be divided into three groups:

1. These are industries in which the processes are so mechanical that but little training is required for their operation, such as the textile mills, the paper industries, and the metal trades. In the paper and metal industries comparatively few young girls are employed. Therefore, their training must have been reached either by remaining in school until they were 16 or 17, or while they were engaged in some of the child-employing industries. For such trades, consequently, the industrial training must either be offered in connection with the regular school work, or in connection with the child-employing industries, as part-time (continuation) instruction or as evening work for the older girl. In the textile industries, however, girls are being employed. Here, also, is the problem of all our great textile centers. Since the industry itself has but little promise for the woman, it would seem that the girls here employed should be given some part-time (continuation) instruction, which would develop greater intelligence in their industry and at the same time a knowledge of those trade processes which would enable them to contribute to their economic welfare in the home, such as the use of the needle and the knowledge of domestic work. This type of evening courses for mature workers is doubtless that which should be given to those who are employed in the other trades (metal and paper trades). Similarly, the mercantile establishments attract 163 girls and afford one of the chief avenues through which girls who will enter other industries later may be reached. If they can not be drawn away for trade courses, they should be taught, as would the girls in the textile industry, through part-time instruction.

2. The second group of industries contains those in which the processes require a larger or smaller amount of skill according to the type of work being done, and for which there is a possibility of fundamental training which shall not only contribute greater intelligence in the less skilled part of the processes, but shall afford a power to advance to the more highly skilled work; such an industry is the machine-operating industry. The training for this industry must always be considered as looking toward a probable medium wage as great as in any of the other industries and toward work far more desirable in character, but at the same time offering a possibility for the more intelligent to attain a wage suitable for highly skilled work.

There are in this industry large numbers of children, as has been shown. The majority of these children do not pass up into the advanced work and should be drawn away from the industry for a shorter or longer course, as seems possible, so that when they do enter these unskilled parts of the trade their knowledge and their intelligence will afford them opportunity for continuous advancement. Or to these children should be given part-time instruction which would fit them for the skilled processes, and enable them to pass on to the higher type of machine operating.

This is the great industry for women in Worcester in which there is a possibility for training and for the development of skill. It is, therefore, upon this industry that training should be concentrated, giving as large an opportunity as the children will accept for shorter or longer preparation, in the technique of machine operating, but supplementing this course with training in the needle trade and in domestic economy. It seems probable that any plan for training should also contemplate three features as a later development. Part-time training might be anticipated for the younger girls who can not be prevailed upon to give full time for even a short period; specialized operating for those who have been able to take only a short period of training; and evening work on special machines for the ambitious young woman who is now in the industry.

3. The group of industries in which there is the opportunity for the most highly skilled work and therefore for the highest industrial opportunity and wage, dressmaking and millinery, is found to a limited extent in Worcester.

In dressmaking, the outlook is distinctly for the mature and independent worker. But the field is extremely limited, and the means by which the young worker, even with a certain amount of training, can secure experience or training are lacking. Both of those conditions are due to the small number and small size of the specialized shops. Both offer special problems for solution in connection with trade training, and must affect the kind and length of courses given. Only a small number, perhaps not to exceed 20, should therefore be given a short or one year course of training, since opportunity to enter the trade at the bottom and work up is at present so limited. Similarly, longer courses, two, three, or four years, in which the more advanced principles are taught, seem essential. Dull-season courses for the girl with a shorter preparation, or evening courses teaching certain definite parts of the trade to the older girl with a professional attitude, would probably necessarily follow in the development of the training. To this work, therefore, would be directed the girl with that type of ability which makes for success in the trade, and only the girl without pressure for immediate self support, or with force of char-

acter sufficient to overcome the difficulties of a long and unpaid or low-paid apprenticeship period.

Millinery is also a highly skilled trade with limited opportunities in Worcester, as it now exists. Consisting of small shops with a few helpers, it doubtless affords better opportunities proportionately than dressmaking, with the exception that the seasons are very short. But the call is chiefly for the skilled maker and the trimmer. The girls who now enter are usually more mature and less self dependent, but the apprenticeship training is apparently unsatisfactory. One or two year courses therefore seem desirable, and a scheme for dull-season courses would probably be distinctly popular.

4. A trade school for girls in Worcester should certainly emphasize the courses in machine operating and part-time instruction. Here is a field for constructive work and distinct initiative. The city must face the problems of all large industrial centers, but it differs from Boston or New York in that it does not have the large demand for the highest type of feminized industries. On the other hand, it differs, probably, from the textile centers in that it has a very large and rapidly growing industry which demands the skill gained in the factory. In this respect it will therefore doubtless teach such centers as parts of Boston, the shoe centers of the State, and similar industrial towns.

The trade school can not properly duplicate the Boston trade school. It will contain the same trades, but the emphasis and proportion must be different. The Boston trade school did and should accentuate the dressmaking and the millinery as the best fields for girls with certain aptitudes, and as unrestricted in types of development. The Worcester trade school must offer these trades with guarded care as to numbers, types of girls, and types of opportunities. The Boston trade school offered machine operating, but it has been properly an outgrowth of experience and dependent on the increase in size of the school. The Worcester trade school should attack this trade as its most important and most immediate problem.

These conclusions suggest, therefore, the establishment of a trade school with a short course in machine operating. Instruction should be given to a fairly large group at once in order to demonstrate its efficiency. It may prove necessary to secure part-time cooperation with some machine-operating industry as an entering wedge, or to consider such a scheme as feasible for the immediate future. It should look forward to rapid development in the variety of specialized machines; to rapid increase in the number to whom instruction could be given; and in the length of course which shall be offered, either increasing the unit of time or introducing larger units. The trade school should also offer one-year courses in dressmaking and millinery at once. These will be doubtless limited in size at first by

the number of applicants, but the effort should be to restrict the number admitted to these courses, and development should distinctly be in the introduction of longer unit courses. Dull-season courses and evening courses will doubtless in time demand consideration. The trade school will surely feel itself bound in due time to meet the needs of the larger number of workers in the machine-operating industry, through part-time courses. It also will have before it in the future the welfare of the young workers in textiles and in the mercantile establishments, unless they may have been drawn away from these less desirable occupations. The necessity for the immediate and intensive attention to machine operating indicates the importance of securing opportunity for solid permanent and expanding housing, in order that installing machines should be conducted as economically as possible.

VIII. PRESENTATION OF MATERIAL IN TABULAR FORM.

TABLE I.—*Showing women-employing industries of Worcester.*

(Based on factory inspector's report.)

Industries.	Number of establishments reported.	Number employed.				
		Total.	Men.	Women.	Boys.[2]	Girls.[2]
Boots and shoes	7	1,131	732	399	14	16
Clothing	26	703	102	601	.....	22
Corsets	6	1,786	152	1,634	.....	149
Envelopes and paper goods	10	1,513	576	937	25	39
Laundries	13	229	.....	229	.....	.....
Leather goods	4	1,028	925	103	37	13
Narrow fabrics	4	332	33	299	.....	59
Textiles	18	2,926	1,562	1,364	129	121
Thread	2	130	35	95	.....	2
Underwear	5	901	92	809	.....	4
Wire and metal goods	39	9,024	7,917	1,107	222	82
Miscellaneous[1]	34	1,423	1,048	375	57	26

[1] Miscellaneous: 2 emery factories; 4 piano factories; 1 drug; 2 food; 1 printer; 4 casket factories; 1 machinery brush; 1 comb; 1 cigar; 1 yeast; 1 dyeworks; 6 paper-bag factories; 1 bookbinding; 6 newspaper; 1 heel; 1 unclassified.
[2] Included under men.
[3] Included under women.

Of the women-employing industries of Worcester, envelopes and paper goods, narrow fabric, textiles, thread, and wire and metal goods employ almost one-half (47 per cent). Boots and shoes, clothing, corset, and muslin underwear employ about two-fifths (43 per cent) of the women.

TABLE II.—*Showing women-employing industries visited.*[1]

Industries.	Number of establishments visited.	Number employed.		
		Total.	Women.	Girls.
Boots and shoes	3	145	107	38
Clothing	6	359	341	18
Corsets	3	2,324	1,955	369
Dressmaking	10	207	191	16
Millinery	16	276	249	27
Paper goods	3	653	535	118
Textiles	5	807	756	51
Underwear	5	570	550	20
Miscellaneous[2]	4	127	87	40

[1] The difference in the date of visit may explain the discrepancies between these figures and those reported by the factory inspector, as shown in Table 1. This statement does not include some establishments visited which were not on the inspection list. Hence, totals used in the text are often formed by a combination of the reports of the inspector and of the investigator.

[2] Miscellaneous: 1 leather-goods factory; 1 thread factory; 1 wire factory; 1 fancy-biscuit factory.

The representative character of the study will be seen from the following proportion of industries which were visited and studied:

Boots and shoes.—3 out of 7 establishments employing 27 per cent of the women in the trade.

Clothing.—All the clothing establishments.

Corsets.—3 out of 6 establishments employing more than the total number reported by the factory inspector.

Envelopes and paper goods.—3 out of 10 establishments employing 57 per cent of the women in the trade.

Textiles.—5 out of the 18 textile manufacturing establishments employing 55 per cent of the women in the trade.

Muslin underwear.—All of the underwear factories.

TABLE III.—*Showing ages of girls (727) leaving school during the year September, 1909, to September, 1910, according to age and schooling certificates.*[1]

Age.	Number.
Under 14 years of age [2]	7
14 and under 15	431
15 and under 16	177
16 and under 17	24
17 and under 18	4
Unclassified	84
Total	727

TABLE IV.—*Showing grade of leaving school during the year September, 1909, to September, 1910, according to age and schooling certificates.*

Grade.	Number.	Grade.	Number.
Third grade	6	Ninth grade	130
Fourth grade	2	High school	44
Fifth grade	53	Unclassified	180
Sixth grade	89		
Seventh grade	127	Total	727
Eighth grade	96		

[1] Sixty per cent of these girls who had left school were only *14 years old.*

[2] Under 14 years of age, 7, viz: 11 years 10 months, 13 years 2 months, 13 years 5 months, 2 of 13 years 10 months, and 2 of 13 years 11 months.

So far as the age and schooling certificates enlighten us, 17 per cent of those who reached the ninth grade remained until the end of the year, but the statistics on this point are undoubtedly incomplete.

Twenty-one per cent of the girls withdrawing from school the past year left before completing the sixth grade. About one-third dropped out in the sixth and seventh grades. More than one-half dropped out before reaching the ninth grade.

TABLE V.—*Showing educational status of 214 families visited.*

	Number.
Educated	6
Intelligent	124
Ignorant	44
Unclassified	40

Fifty-eight per cent of the girls leaving in the past year who were visited came from intelligent families.

TABLE VI.—*Showing types of homes, on same basis as Table V.*

Comfortable	118
Lacking in comfort	36
Poor	34
Unclassified	26

Fifty-five per cent of these girls visited came from really comfortable homes.

One-half, on a very conservative estimate, left school without economic pressure; and of these almost one-half were 14 years old, 25 per cent had not reached the seventh grade, and 60 per cent could not have passed the ninth-grade test.

TABLE VII.—*Showing nativity of 214 girls visited.*

Visited in homes:	
Scandinavian	46
Irish	44
American	40
English	17
Canadian	14
Russian	9
Italian	7
Jew	1
Finn	1
Syrian	1
Lithuanian	1
Pole	1
Turk	1
Scotch	4
German	2
Colored	1
No data	24

	14 yrs. old.	15 yrs. old.
Leaving without economic pressure:		
Swede	14	14
American	10	8
Irish	9	9
French	5	2
Canadian	3	5
English	1	4
Italian	1	1
Russian Jew	1	
Pole	1	
Scotch		1
Russian		1
No data		125

TABLE VIII.—*Showing occupation of girls who left school during the year 1909–10.*
(Based on age and schooling certificates.)

Mercantile establishments	163
Manufactures	549
Miscellaneous	15
Total	727

(a) *According to industry:*

Manufactures into which girls go from school (showing the predominance of one great type of industry—machine operating—as a girl-employing industry).

	Girls.
Corsets and accessories	206
Textiles, spinning, knitting	104
Metal trades	71
Paper goods	46
Clothing, factory product	36
Shoes and leather	33
Food and drug products	21
Millinery	8
Novelties	5
Dressmaking	3
Brushes, combs, rubber	3
Laundry	4
Printing	2
Piano company	1
Vaudeville	1
Miscellaneous	5
Total	549

Of the 727 girls, 22 per cent entered mercantile establishments, 75 per cent went into manufactures, 38 per cent entered machine-operating trades, and 28 per cent entered corset factories.

(b) *According to type of industry:*

1. Unskilled trades—	
Textiles, spinning, knitting	104
Metal	71
Paper	46
Food and drugs	21
Novelties	5
Brushes, combs, rubber	3
Piano	1
Vaudeville	1
Miscellaneous	5
Total	257
2. Medium skilled trades—	
Corsets and accessories	206
Clothing	36
Shoes and leather	33
Laundry	4
Printing	2
Total	281

(*b*) *According to type of industry*—Continued.

3. Skilled trades—	
Millinery	8
Dressmaking	3
Total	11

Of these girls, 22 per cent entered mercantile establishments, 35 per cent entered unskilled industries, 39 per cent entered medium skilled industries, and 1 per cent entered skilled industries.

No tabular statement of the wages and conditions in the industries is presented, since the studies are type studies only.